



**Application, Appendix,
DEQ Supplement, Direct
Testimony and Exhibits of
Virginia Electric and Power
Company**

**Before the State Corporation
Commission of Virginia**

**Line #2011 Extension from
Cannon Branch to Winters
Branch**

Application No. 312

Case No. PUR-2021-00291

Filed: December 16, 2021

Volume 2 of 2

BEFORE THE
STATE CORPORATION COMMISSION
OF VIRGINIA

APPLICATION OF
VIRGINIA ELECTRIC AND POWER COMPANY
FOR APPROVAL OF ELECTRIC FACILITIES

Line #2011 Extension from Cannon Branch to Winters Branch

Application No. 312

DEQ Supplement

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Based upon consultations with the Virginia Department of Environmental Quality (“DEQ”), Virginia Electric and Power Company (“Dominion Energy Virginia” or the “Company”) has developed this DEQ Supplement to facilitate review and analysis of the proposed Project by DEQ and other relevant agencies.

1. Project Description

In order to maintain reliable service for the overall growth in the area and to comply with mandatory North American Electric Reliability Corporation (“NERC”) Reliability Standards, Virginia Electric and Power Company (“Dominion Energy Virginia” or the “Company”) proposes to complete the following in the City of Manassas and Prince William County, Virginia (“the Manassas Airport Area”):

- (i) Remove approximately 0.06 mile of the existing 230 kV Line #2011 termination between Cannon Branch Substation and Structure #2011/68 (“Partial Line #2011 Removal”);
- (ii) Construct a new approximately 1.05-mile segment of 230 kV Line #2011 starting south of Cannon Branch Substation and terminating at Winters Branch Substation in a newly acquired, variable width right-of-way expansion, ranging in width from 50 to 120 feet, parallel and to the south and east of the existing, variable width right-of-way (ranging in width from 60 to 120 feet) containing 230 kV Lines #2195 and #2148 (“Line 2011 Extension”). Specifically, for the Line #2011 Line Extension, the Company proposes to extend a third 230 kV source to Winters Branch by extending existing Line #2011 (Clifton-Cannon Branch) to terminate at Winters Branch Substation, which would create new Line #2011 (Clifton-Winters Branch); and
- (iii) Perform related work at (1) the Company’s existing Cannon Branch Substation to support the line extension to Winters Branch Substation and (2) the Company’s existing Winters Branch Substation to support the new line rating.

The proposed Partial Line #2011 Removal and the Line #2011 Extension to Winters Branch Substation are collectively referred to as the “Project.”¹

The Project in the Manassas Airport Area is centered within the Data Center Opportunity Overlay District, which is located in Prince William County. The Project is necessary to assure that the Company can maintain reliable service and meet the load growth in this area. Specifically, the Company anticipates extensive growth in the Manassas Airport Area over the next 5 to 10 years as many large parcels in the area are currently owned or under contract by data center developers.

¹ In parallel with this Project, the Company proposes to convert the existing 115 kV Line #172 (Liberty-Lomar) and Line #197 (Cannon Branch-Dominion DP-Lomar DP) by extending a third 230 kV source between Liberty and Cannon Branch (“Conversion Project”). The Company considers the Conversion Project an “ordinary extension[] or improvement[] in the usual course of business” pursuant to § 56-265.2 A 1 of the Code of Virginia (“Va. Code”) and consistent with Staff’s July 6, 2017 guidance, which provides that any transmission project that only requires reconductoring, maintenance or station work does not require a certificate of public convenience and necessity (“CPCN”), except as noted therein. In addition to the proposed Project, the Company also believes the Conversion Project is necessary to resolve multiple 300 MW N-1-1 criteria violations, as further discussed in Section I.A of the Appendix.

The Company anticipates an excess of 300 MW in the Manassas Airport Area by 2023. The substations in the Manassas Airport Area have or will be energized to serve data center campuses in addition to City of Manassas Electric's Airport Delivery Point ("DP"). The load growth provided in Section I.C of the Appendix demonstrates the dynamic nature and large magnitude of the data center load growth occurring in this small geographic area. Accordingly, the proposed Project is needed to meet load requirements and can serve future load growth in the Manassas Airport Area, which will, in turn, facilitate economic growth in the Commonwealth.

As noted above, the new approximate 1.05-mile segment of Line #2011 requires the acquisition of a variable width right-of-way expansion, ranging in width from 50 to 120 feet, to the south and east, parallel to an existing variable width right-of-way that contains Lines #2195 and #2148. The proposed Line #2011 right-of-way expansion will start directly south of Cannon Branch Substation and parallel the existing, variable width right-of-way (ranging in width from 60 to 120 feet), containing Lines #2195 and #2148, terminating at Winters Branch Substation.

The estimated conceptual cost of the proposed Project is approximately \$11.7 million, which includes approximately \$10.4 million for transmission-related work and approximately \$1.3 million for substation-related work (2021 dollars).

The desired in-service target date for the proposed Project is December 29, 2023. The Company estimates it will take approximately 15 months for detailed engineering, materials procurement, permitting, real estate, and construction after a final order from the Commission. Accordingly, to support this estimated construction timeline and construction plan, the Company respectfully requests a final order by September 16, 2022. Should the Commission issue a final order by September 16, 2022, the Company estimates that construction should begin around July 5, 2023, and be completed by the in-service target date, which is December 29, 2023. This construction timeline will enable the Company to meet the targeted in-service date for the Project. This schedule is contingent upon obtaining the necessary permits and transmission line outages; dates may need to be adjusted based on permitting or outage delays, or design modifications in order to comply with additional agency requirements identified during the permitting application process.

2. Environmental Analysis

The Company solicited comments from all relevant state and local agencies about the Project in November 2021. Copies of these letters are included as Attachment 2. The DEQ provided a letter in response to the Company's request for the Project on November 10, 2021. A copy of this letter is included as Attachment 2.A.1.

A. Air Quality

The Company will control fugitive dust during construction in accordance with DEQ regulations. During construction, if the weather is dry for an extended period of time, there will be airborne particles from the use of vehicles and equipment within the

right-of-way. Minimal earth disturbance will take place and vehicle speed, which is often a factor in airborne particulate, will be kept to a minimum. Erosion and sediment control are addressed in Section 2.G, below. Equipment and vehicles that are powered by gasoline or diesel motors will also be used during the construction of the line so there will be exhaust from those motors.

The proposed right-of-way expansion for the Line #2011 Extension varies in width from 50 feet to 120 feet and parallels an existing, variable width right-of-way containing 230 kV Lines #2195 and #2148, which ranges from 60 feet to 120 feet. The adjacent existing transmission line right-of-way is currently maintained for operation of the existing transmission facilities and the proposed right-of-way expansion for the Line #2011 Extension has largely been cleared for development and construction activities on the adjacent properties. The Line #2011 Extension may require minimal tree clearing and some trimming of tree limbs along the right-of-way edges to support construction activities. The Company does not expect to burn cleared material but, if necessary, the Company will coordinate with the responsible locality to ensure all local ordinances and DEQ requirements are met. The Company's tree clearing methods are described in Section 2.K.

B. Water Source (No water source is required for transmission lines so this discussion will focus on potential waterbodies to be crossed by the proposed Line #2011 Extension.)

The Project is located within the Middle Potomac-Anacostia-Occoquan watershed, Hydrologic Unit Code 02070010. According to the U.S. Geological Survey ("USGS") Nokesville topographic quadrangle, the Project area does not cross any named perennial streams or rivers. The Virginia Department of Conservation and Recreation's ("DCR") Natural Heritage Data Explorer ("NHDE") provides information on streams using the National Hydrography Dataset. According to the NHDE mapping service, the Project right-of-way crosses one unnamed tributary. However, no streams were identified within the Project right-of-way during the Waters of the U.S. ("WOUS") delineation that was conducted for the Project, as detailed in Section 2.D below.

Any clearing required in the vicinity of streams will be performed by hand within 100 feet of both sides, and vegetation less than three inches in diameter will be left undisturbed.

The Company solicited comments from the Virginia Marine Resources Commission ("VMRC") regarding the proposed Project in November 2021. VMRC responded in a letter dated November 9, 2021, indicating that the Project is located outside the jurisdictional areas of the VMRC, and a permit will not be required from VMRC. See Attachment 2.B.1. If necessary, a Joint Permit Application will be submitted for review by the VMRC, DEQ, and the U.S. Army Corps of Engineers (the "Corps") to authorize any project-related impacts to jurisdictional wetlands or other WOUS. See Section 2.D below.

C. Discharge of Cooling Waters

No discharge of cooling waters is associated with the Project.

D. Tidal and Non-tidal Wetlands

No tidal wetlands were identified within the proposed Project area.

Wetlands Impact Consultation

Within the Project right-of-way, the Company delineated wetlands and other WOUS using the *Routine Determination Method* as outlined in the *1987 Corps of Engineers Wetland Delineation Manual* and methods described in the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (Version 2.0). Approximately 0.40 acre of palustrine emergent wetlands were identified within the proposed right-of-way for the Project. No streams or other wetland types are located within the right-of-way. The Company submitted the results of this delineation to the Corps on June 18, 2021, for confirmation. A Preliminary Jurisdictional Determination, which verified the results of the delineation, was issued by the Corps on September 29, 2021 (ref. NAO-2021-01690). See [Attachment 2.D.1](#).

Total jurisdictional resources within the Project right-of-way are provided in Table 1 and detailed in [Attachment 2.D.1](#).

Table 1. Jurisdictional Resources within Project Right-of-Way

Resource	Area (±)
Palustrine Forested Wetland	-
Palustrine Emergent Wetland	0.40 acre
Palustrine Scrub Shrub	-
Open Waters (Palustrine Unconsolidated Bottom)	-
Perennial Stream	-
Intermittent Stream	-
Ephemeral Stream	-

The Company solicited comments from the Virginia Department of Environmental Quality (“DEQ”) Office of Wetlands and Stream Protection in November 2021. The Company received a response on November 22, 2021, from the DEQ Office of Wetlands and Streams Protection, which recommended that the structures should be sited to avoid wetlands to the extent practicable. See [Attachment 2.D.2](#). The Company intends to adhere to DEQ’s recommendations. Prior to construction, the Company will obtain any necessary permits to impact jurisdictional resources.

E. Solid and Hazardous Waste

On behalf of the Company, RES conducted database searches for solid and hazardous wastes, and petroleum release sites within a 0.5-mile radius of the Project. Publicly available data from the Environmental Protection Agency (“EPA”) Facility Registry System (“FRS”) were obtained and include *Comprehensive Environmental Response, Compensation and Liability Act* (“CERCLA”)/Superfund; *Resource Conservation and Recovery Act* (“RCRA”); and brownfield sites.

Per this review, no registered Brownfield Sites or CERCLA/SEMS sites were identified within a 0.5-mile radius of the Project area.

According to the EPA FRS database, nine RCRA sites are located within a 0.5-mile radius of the Project area, as detailed in Table 1. Of the nine RCRA sites identified within the search area, seven are located over 500 feet from the Project area. These seven sites are located outside of the right-of-way for the proposed Project and due to distance, do not appear to warrant further concern relating to the proposed Project. The remaining two RCRA sites are located within 500 feet of the Project area, with one located directly within the Project right-of-way. These two sites are discussed in further detail below. See Attachment 2.E.1 for a map of facility locations and a table detailing the FRS facility record information.

The Project area is located within approximately 160 feet of the FedEx Freight Inc. (EPA Registry ID: 110006455031) facility, which is classified as an active very small quantity generator. The facility has no records of RCRA violations in the FRS Enforcement and Compliance Database. Due to the distance and regulatory status (no violations found) of the facility, it does not appear to warrant further concern relating to the proposed Project.

The proposed right-of-way expansion for the new approximate 1.05-mile extension of Line #2011 intersects the Glen Gery Corporation Capitol Plant (EPA Registry ID: 110001887815), which is located directly east of the intersection of Godwin Drive and the Manassas Line railroad in the City of Manassas. Construction of the new extension of Line #2011 will require the demolition of a building on the site which is currently utilized by Glen Gery Corporation as a brick and structural clay tile manufacturing plant. According to the site-specific *FRS Facility Detail Report*, the plant is classified as an active very small quantity generator under the RCRA and is also registered under the Toxic Release Inventory (“TRI”) and Integrated Compliance System for Air for operation under a Clean Air Act (“CAA”) Synthetic Minor Emissions permit. The facility has no records of RCRA or CAA violations in the FRS Enforcement and Compliance Database, and the TRI report for the facility shows that no toxic releases have occurred since 2004. Previous toxic releases consisted solely of air emissions of hydrogen fluoride that occurred between 1997 and 2004. No surface water discharges, releases to land, or injection to groundwater have been reported at the facility. The Company will work with the owner of the facility, as necessary, to resolve any potential environmental or hazardous waste concerns related to the demolition of the plant. However, due to the regulatory status

of the facility (no violations or recent toxic releases found) and the nature of the previous releases (air emissions), the facility is not anticipated to present an environmental concern for the Project. The *Detailed Facility Report* and TRI site record for the Glen Gery Corporation Capitol Plant facility are included in Attachment 2.E.1 for reference.

RES also reviewed data from the Virginia DEQ Virginia Environmental Geographic Information Systems (“VEGIS”) viewer. VEGIS provides mapped locations of Voluntary Remediation Program (“VRP”) sites, Permitted Solid Waste Facilities, and petroleum release sites. Per this review, no VRP sites or Permitted Solid Waste Facilities were identified within a 0.5-mile radius of the Project.

VEGIS returned eight Petroleum Releases within a 0.5-mile radius of the Project. All of the identified release site cases have been closed. Of the eight Petroleum Releases identified within the study area, six are located over 500 feet from the Project area. These six sites are located outside of the right-of-way for the proposed Project and due to distance and release site status, do not appear to warrant further concern. The remaining two petroleum release sites are located within 500 feet of the Project area, with one located directly within the proposed right-of-way. These two sites are discussed in further detail below. See Attachment 2.E.1 for a map of petroleum release site locations and a table detailing the petroleum release site record information.

A petroleum release associated with the aforementioned Glen Gery Corporation Capitol Plant facility (PC No. 19900734) is located within the boundaries of the proposed right-of-way expansion for the new approximate 1.05-mile segment of Line #2011. According to the site record, the petroleum release was reported on December 13, 1989, and closed on February 27, 1991, indicating a lack of significant soil and/or groundwater contamination. The Company has a procedure in place to handle petroleum contaminated soil, if encountered. However, based on the regulatory status of the site (closed), short duration the release was open, and time elapsed (30 years) since the case was closed, allowing any remaining contamination to naturally attenuate, the release does not appear to warrant further concern relating to the Project.

The Project area is located within approximately 180 feet of a petroleum release site associated with the Manassas City Power Plant (PC No. 19954178). According to the site record, the petroleum release was reported on January 24, 1995, and closed on June 20, 1995, indicating a lack of significant soil and/or groundwater contamination. Based on the regulatory status of the site (closed), short duration the release was open, and time elapsed (25 years) since the case was closed, allowing any remaining contamination to naturally attenuate, the vicinity release does not appear to warrant further concern relating to the Project.

Tables listing the identified RCRA and petroleum release sites are included in Attachment 2.E.1.

F. Natural Heritage, Threatened and Endangered Species

On behalf of the Company, RES conducted online database searches for threatened and endangered species in the vicinity of the Project, including the U.S. Fish and Wildlife (“USFWS”) Information, Planning, and Conservation (“IPaC”) system, the USFWS Critical Habitat for Threatened and Endangered Species Mapper, the USFWS Bald Eagle Concentration Area Map, the Virginia Department of Wildlife Resources (“DWR”) Virginia Fish and Wildlife Information Service (“VAFWIS”), the DGIF Northern Long-eared Bat (“NLEB”) Winter Habitat and Roost Trees Map, the Virginia Department of Conservation and Recreation (“DCR”), the Natural Heritage Data Explorer (“NHDE”), the Center for Conservation Biology (“CCB”) Bald Eagle Nest Locator, and the National Oceanic and Atmospheric Administration (“NOAA”) Section 7 Program. The results are presented in Table 2 below.

Table 2. Threatened and endangered species within the Project vicinity

Species: Common Name (<i>Scientific Name</i>)	Status	Database	Results
Northern long-eared bat (<i>Myotis septentrionalis</i>)	FTST	USFWS - IPaC DWR - NLEB Winter Habitat and Roost Tree Map	No known hibernacula or summer roosts are identified in the vicinity of the project. Follow 4(d) Rule. Not likely to adversely affect this species.
Brook floater (<i>Alasmodonta varicosa</i>)	SE	DWR – VAFWIS DCR – NHDE	Species observed in Broad Run; Identified as potentially occurring within the project vicinity. No adverse effects expected; no in-stream work proposed.
Yellow lance (<i>Elliptio lanceolata</i>)	FTST	DWR - VaFWIS	Species observed in Broad Run; Identified as potentially occurring within the project vicinity. No adverse effects expected; no in-stream work proposed.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	ST	DWR - VaFWIS	Identified as potentially occurring within the project vicinity. No adverse effects expected; suitable habitat likely not present.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	BGEPA	CCB	Identified one nest (ID: PW1403) within approximately 1,460 feet of the Project area. Not likely to adversely affect this species or the identified nest; no nests identified within 660 feet of the Project area.

FE: federally endangered, FT: federally threatened, SE: state endangered, ST: state threatened, BGEPA: Bald and Golden Eagle Protection Act

The following conclusions are based upon the assumption that construction access will avoid stream crossings where practical or use crane mats to span stream crossings, and erosion and sediment controls will be used as appropriate throughout the Project to protect wetlands and water resources. Additionally, the scope of work

assumes most of the work will occur within existing, cleared, and maintained right-of-way and areas previously cleared for the development of the Winters Branch Substation and industrial and commercial developments; however, minimal clearing may be required for the proposed right-of-way expansion for the Line #2011 Extension.

Northern Long-eared Bat

The USFWS IPaC database identified the NLEB as potentially occurring within or near the Project area; however, the DWR NLEB Winter Habitat and Roost Tree Application map shows no known hibernacula or maternity roost trees within the Project vicinity. NLEBs spend the winter hibernating in caves and mines, called hibernacula. They use areas in various sized caves or mines with constant temperatures, high humidity, and no air currents. During the summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags (dead trees). Males and non-reproductive females may also roost in cooler places, like caves and mines. NLEBs seem to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices. This bat has also been found rarely roosting in structures, like barns and sheds:

(<https://www.fws.gov/Midwest/endangered/mammals/nleb/nlebFactSheet.html>).

Since the Project will occur within an existing maintained right-of-way and areas previously cleared for the construction of the Winters Branch Substation and industrial and commercial facilities, tree clearing is expected to be minimal and will include danger tree and limb removal along the right-of-way. Given that no hibernacula or maternity roost trees occur in the vicinity of the Project, no impacts are expected. To the extent that impact is possible, the Project can rely on the findings of the 4(d) Rule for necessary tree removal, provided the proposed clearing occurs outside the pup season time of year restriction for NLEB (June 1-July 31) prescribed under the rule.

Yellow Lance and Brook Floater

According to the DWR VAFWIS, the Yellow lance and Brook floater were identified as potentially occurring within the Project vicinity, and both species have been observed within Broad Run, which is located approximately 1.10 miles west of the Project area. Based on the anticipated scope of the Project and lack of streams within the Project area, there are no anticipated impacts to the Brook floater and Yellow lance. No in-stream work is proposed, as all streams and other WOUS that may be crossed for construction access will use non-impacting temporary structures such as timber mats or timber mat bridges. If the Project scope changes to include in-stream work, additional coordination may be required.

Loggerhead Shrike

Additionally, the DWR VAFWIS identified the Loggerhead shrike as potentially occurring within the Project vicinity. Suitable habitat for the Loggerhead shrike generally consists of semi-open terrain, including large clearings in wooded areas to open grasslands with a few scattered trees or large shrubs. Loggerhead shrikes prefer areas with short, maintained grass and suitable perching sites for stalking and capturing prey. According to the DWR VAFWIS, no known occurrences were identified within the search radius, and the Project area consists of developed areas and maintained right-of-way which is surrounded by commercial and industrial developments. It is unlikely suitable habitat exists within the Project area.

Bald Eagle

The CCB Bald Eagle Nest Locator identified no bald eagle nests within 660 feet of the Project area. The closest identified nest (Nest PW1403) to the Project is located approximately 1,460 feet from the Project area. The USFWS Virginia Bald Eagle Concentration Area Map confirms that the Project area does not intersect any designated bald eagle concentration areas.

Based on the scope of the proposed work, adverse effects to threatened and endangered species are not anticipated. A copy of the database search results can be found in Attachment 2.F.1.

Agency Comments

Additionally, the Company requested comments from the USFWS, DWR and DCR regarding the proposed Project in November 2021. An email response dated November 3, 2021, from DWR is included as Attachment 2.F.2. As the Company will obtain all necessary permits prior to construction, such as authorization from VMRC, DEQ, and the Corps, coordination with DWR, DCR, and USFWS will take place through the respective permit processes to avoid and minimize impacts to listed species and natural heritage resources.

New and updated information is continually added to the DCR's Biotics database. Following the DCR-DNH SCC planning stage project review, the Company shall resubmit project information with the completed information services order form and a map to DCR-DNH or submit the project on-line through the National Heritage Data Explorer. This review shall occur during the final stage of engineering and upon any major modifications of the project during construction (e.g., deviations, permanent or temporary, from the original study area and/or the relocation of a tower(s) into sensitive areas) for an update on natural heritage information and coordination of potential project modifications to avoid and minimize impacts to natural heritage resources.

G. Erosion and Sediment Control

The DEQ approved the Company's *Standards & Specification for Erosion & Sediment Control and Stormwater Management for Construction of Linear Electric Transmission Facilities (TE VEP 8000)*. These specifications are given to the Company's contractors and require erosion and sediment control measures to be in place before construction of the line begins and specifies the requirements for rehabilitation of the right-of-way. A copy of the current DEQ approval letter dated August 13, 2019, is provided as Attachment 2.G.1. According to the approval letter, coverage was effective through August 12, 2020. The Company submitted the renewal application on August 3, 2020, and is awaiting approval.

H. Archaeological, Historic, Scenic, Cultural or Architectural Resources

Dutton + Associates ("Dutton") was retained by the Company to conduct a Stage I Pre-Application Analysis for the Project. This analysis was completed in August 2021 and submitted to the Virginia Department of Historic Resources ("VDHR") in December 2021. The report is included as Attachment 2.H.1. Additionally, the Company requested comments from VDHR regarding the proposed Project in November 2021. A response letter dated November 30, 2021, from VDHR is included as Attachment 2.H.2. The background research conducted as part of this analysis was guided by VDHR guidance and designed to identify all previously recorded National Historic Landmarks ("NHL") located within 1.5-miles or closer of the proposed Project, all historic properties listed in the National Register of Historic Places ("NRHP") or battlefields located within 1-mile or closer of the proposed Project, all historic properties considered eligible for listing in the NRHP located within 0.5-miles or closer of the proposed Project, and archaeological sites located directly within the proposed Project area.

VDHR and Virginia Cultural Resources Information System ("VCRIS") records indicate that there have been 21 prior Phase I cultural resource surveys within one mile of the Project area, four of which directly included portions of the Project area. As a result of these surveys, the entire Project area has been subject to cultural resource survey.

Archaeological Resources

The VCRIS records reveal there are thirty previously recorded archaeological sites within one mile of the Project area, none of which are located within or adjacent to the Project area (within 100 feet of the project centerline). As a result of previously conducted surveys, the entire Project area has been subject to Phase I cultural resources survey. It is Dutton's opinion that the Project will not impact any archaeological sites and no further consideration of archaeological resources is warranted.

Architectural Resources

With regards to architectural resources, five historic properties designated an NHL, listed in, or determined eligible or potentially eligible for listing in the NRHP are located within the defined study tiers. This includes no (0) NHLs located within 1.5 mile or closer of the proposed Project, two (2) NRHP-listed properties located 1.0 mile or closer of the Project (Jennie Dean Memorial Site/ VDHR# 155-0010 and Cannon Branch Fort/ VDHR #155-5020), three (3) battlefields located 1.0 mile or closer of the Project (Manassas Station Operations/ VDHR# 076-5036, Second Manassas Battlefield/ VDHR #076-5190, and First Manassas Battlefield/ VDHR #076-5335), and no (0) additional properties that have been determined eligible or potentially eligible for listing in the NRHP that are located within 0.5 mile or closer of the Project.

As the Project area is located within the vicinity of the downtown/suburban area of Manassas, it and all of the resources are situated within a densely developed landscape. Field inspection, representative photographs, and photo simulation reveal that the Project area is screened from many vantage points in the vicinity by intervening development. Where longer vistas are possible and the Project area is visible, it is seen in conjunction with a variety of modern development and other infrastructure. The Project alignment is an extension of an existing transmission line and will border two additional transmission lines within a shared right-of-way. The proposed structures will be similar in height and design to the other existing structures in the area. As such, it is anticipated to be visible only from those vantage points where the other existing lines are already visible and screened from those vantage points where the existing lines cannot be seen. Therefore, the proposed Project will not introduce any substantially new or different qualities or features into the viewshed from any of the historic properties and will have no more than a minimal impact as defined by VDHR on any architectural resources that are designated an NHL, listed in the NRHP, or determined eligible or potentially eligible for listing. Please see the table below.

Table 3. NRHP, eligible, and battlefield resources within 1.0-mile of the centerline of the Project

<u>VDHR #</u>	<u>Resource Name</u>	<u>VDHR/NRHP Status</u>	<u>Distance from Centerline of Project</u>	<u>Recommended Impact</u>
076-5036	Manassas Station Operations Battlefield (Historic), Bristoe Station Battlefield (Historic), Bull Run Bridge (Historic), Kettle Run Battlefield (Historic), Union Mills (Historic)	DHR Staff: Potentially Eligible	Directly Crossed ~0- Miles	Minimal Impact
076-5190	Second Battle of Manassas (Historic/Current), Battle of Gainesville (Historic), Brawner's Farm (Historic), Groveton (Historic), Manassas Plains (Historic), Second Battle of Bull Run (Historic/Current)	DHR Staff: Potentially Eligible	~0.55 Mile	No Impact
076-5335	First Battle of Manassas (Historic), Brawner's Farm (Historic), First Battle of Bull Run (Historic), Gainesville (Historic), Groveton (Historic), Manassas Plains (Historic)	DHR Staff: Potentially Eligible	~0.65 Mile	No Impact
155-0010	Jennie Dean Memorial Site (Historic), Manassas Industrial School for Colored Youth (NRHP Listing)	NRHP Listing, VLR Listing	~0.75 Mile	Minimal Impact
155-5020	Cannon Branch Fort (Historic), The Wakeman Site (Historic)	NRHP Listing, VLR Listing	~0.10 Mile	No Impact

I. Chesapeake Bay Preservation Areas

Construction, installation, operation, and maintenance of electric transmission lines are conditionally exempt from the Chesapeake Bay Preservation Act as stated in the exemption for public utilities, railroads, public roads, and facilities in 9 VAC 25-830-150. The proposed Project is located within Chesapeake Bay Preservation Act jurisdictional counties and will meet these regulations as applicable.

J. Wildlife Resources

Agency databases were reviewed, and agency consultations were initiated with the USFWS, DWR, and DCR to determine if the Project has the potential to affect any threatened or endangered species. As discussed in Section 2.F, certain federal and state listed species were identified as potentially occurring in the Project area. The Company will coordinate with the USFWS, DWR, and DCR as appropriate to determine whether surveys are necessary and to minimize impacts on wildlife resources. The proposed Line #2011 Extension is located on property that is currently utilized or under development for the operation/construction of industrial, commercial, and substation facilities and minimal clearing is needed to support construction activities. As such, no loss of wildlife habitat is anticipated.

K. Recreation, Agricultural and Forest Resources

The Project is expected to have minimal incremental impacts on recreational, agricultural, and forest resources, as the general character of the Project area and surrounding vicinity is characterized as mixed commercial and industrial use and the Project right-of way is located along an existing transmission line right-of-way, Prince William Parkway, and the Norfolk Southern Railroad.

The Virginia Scenic Rivers Act seeks to identify, designate, and protect rivers and streams that possess outstanding scenic, recreational, historic, and natural characteristics of statewide significance for future generations. There are no designated scenic rivers within or adjacent to the Project right-of-way.

The Project does not overlap with or come into close proximity with any scenic byways.

There are no state or local parks located within or adjacent (within 100 feet) to the proposed Project right-of-way between the Cannon Branch and Winters Branch Substations. Four park facilities managed by the Manassas Parks and Recreation Department are located within one mile of the Project right-of-way. Due to distance from the Project right-of-way and the existing conditions adjacent to the Project right-of-way, no permanent impacts to the parks or their viewshed are anticipated to occur.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. Land that does

not meet the criteria for prime farmland can be considered “farmland of statewide importance.” The criteria for defining and delineating farmland of statewide importance are determined by the Virginia Department of Agriculture and Consumer Services. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Other areas that are not identified as having national or statewide importance can be considered to be “farmland of local importance.” This farmland is identified by the appropriate local agencies. Farmland of local importance may include tracts of land that have been designated for agriculture by local ordinance. A total of 5.56 acres of prime farmland, 2.06 acres of farmland of statewide importance, and 3.11 acres of not prime farmland are located within the proposed Project right-of-way. Soils appropriate for prime farmland exist within the Project area; however, none of these areas are zoned for agricultural purposes or available for agricultural use. The majority of the Project area has been previously disturbed or developed. Therefore, the Project is not expected to impact agricultural land.

Under the Virginia Open-Space Land Act, any public body can acquire title or rights to real property to provide means of preservation of open-space land. Such conservation easements must be held for no less than five years in duration and can be held in perpetuity. No conservation easements are located within or directly adjacent (within 100 feet) to the Project right-of-way; however, one DHR conservation easement is located within 600 feet of the Project right-of-way and includes the following:

- Cannon Branch Fort Site easement (DHR Easement ID #155-5020) established May 19, 2000.

The table below lists all easements crossed by and within one mile of the centerline of the Project.

Table 4. Conservation easements crossed by and within 1.0-mile of the Project right-of-way

Unit Name	Owner/Manager
Cannon Branch Fort Site (DHR Easement ID #155-5020)	Department of Historic Resources

The Stage I Pre-Application Analysis conducted by Dutton included an analysis of potential impacts to the Cannon Branch Fort Site. The Cannon Branch Fort Site is a fortification constructed during the Civil War. The fort overlooks Cannon Branch between Manassas and Bristow, Virginia. The site is significant for the potential to provide information on the history of the Civil War in Northern Virginia. The archaeological site is apparently undocumented in the written records of the conflict; the specifics of its exact construction and use are not known. As a result, the site may be of importance as a record of the war and as a source of information regarding the construction technology used on this type of fortification. The site was listed in the NRHP in 1999 and has had a Historic Preservation Easement since 2000.

In order to assess the potential impact of the Project, visual inspection was conducted of the setting around the property, with emphasis on views towards the Project area to document existing setting, sight lines, and viewshed. This assessment found that Cannon Branch Fort is located approximately 0.10 mile from the Project alignment at its nearest point. The property is located between an industrial complex and a regional highway on the outskirts of Manassas, and thus the landscape between the property and the Project is moderately developed. Development between the property and the Project area includes the four-lane divided Prince William Parkway (Route 234), a railroad corridor, and a high-density residential townhouse development.

Inspection from Cannon Branch Fort revealed that the site is located within a mixed-use area surrounded by modern development and infrastructure. From the parking lot, several office buildings associated with the industrial park may be seen immediately to the west while the raised Prince William Parkway corridor can be seen to the northeast. The structures on the existing Lines #2195 and 2148 that are located within the right-of-way to be shared by the Project are not visible from the parking lot, as they are screened by the raised roadway and intervening vegetation. The Cannon Branch Fort itself is set back from the parking lot at the end of a walking trail within a thickly wooded area. The vegetation around the fort completely inhibits views beyond the immediate site and because of the mix of types and species, is anticipated to provide screening year-round and will therefore screen any potential views of the Project. This was confirmed by photo simulation from the main parking lot that revealed the structures will remain beneath the intervening tree line. As such, the Project will not introduce any change of setting or viewshed from the property and will therefore have no impact on Cannon Branch Fort.

The proposed right-of-way expansion for the Line #2011 Extension varies in width from 50 feet to 120 feet and parallels an existing variable width right-of-way containing 230 kV Lines #2195 and #2148, which ranges from 60 feet to 120 feet. The adjacent existing transmission line right-of-way is currently maintained for operation of the existing transmission facilities and the proposed right-of-way expansion for the Line #2011 Extension has largely been cleared for development and construction activities on the adjacent properties. The Project proposes to retain the existing right-of-way as currently utilized but may require additional trimming of tree limbs along the proposed Line #2011 right-of-way expansion and/or trimming for access roads along the corridor to support construction activities. Trees and brush located within 100 feet of streams will be cleared by hand in accordance with the Company approved Erosion and Sediment Control specifications.

Any tree along the right-of-way that is tall enough to endanger the conductors if it were to break at the stump or uproot and fall directly towards the conductors and exhibits signs or symptoms of disease or structural defect that make it an elevated risk for falling will be designated as a “danger tree” and may be removed. The Company’s arborist will contact the property owner if possible before any danger trees are cut, except in emergency situations. The Company’s Forestry Coordinator

will field inspect the right-of-way and designate any danger trees present. Qualified contractors working in accordance with the Company's Electric Transmission specifications will perform all danger tree cutting. The proposed Project is expected to have minimal, if any, impact on forest resources, as the proposed Project is primarily located on properties that have been previously cleared and maintained for existing facility operation and industrial and commercial developments.

In November 2021, the Company solicited DCR, VOF, and Virginia Department of Forestry ("DOF") for comments on the proposed Project. In an email response dated November 3, 2021, VOF indicated that the Project does not have any existing nor proposed open-space easements in the immediate vicinity of the Project. See Attachment 2.K.1. In a response letter dated November 19, 2021, DOF indicated that the agency had no comments on the Project. See Attachment 2.K.2.

L. Use of Pesticides and Herbicides

Of the techniques available, selective foliar is the preferred method of herbicide application. The Company typically maintains transmission line right-of-way by means of selective, low volume applications of EPA approved, non-restricted use herbicides. The goal of this method is to exclude tall growing brush species from the right-of-way by establishing early successional plant communities of native grasses, forbs, and low growing woody vegetation. "Selective" application means the Company sprays only the undesirable plant species (as opposed to broadcast applications). "Low volume" application means the Company uses only the volume of herbicide necessary to remove the selected plant species. The mixture of herbicides used varies from one cycle to the next to avoid the development of resistance by the targeted plants. There are four means of dispersal available to the Company, including by-hand application, backpack, fixed nozzle-radiarc, and aerial. Very little right-of-way maintenance incorporates aerial equipment. The Company uses licensed contractors to perform this work that are either certified applicators or registered technicians in the Commonwealth of Virginia.

DEQ has previously requested that only herbicides approved for aquatic use by the EPA or the USFWS be used in or around any surface water. The Company intends to comply with this request.

M. Geology and Mineral Resources

According to the Virginia Energy Interactive Geologic Map, the Project consists primarily of sandstone, siltstone and shale, and interbedded and undifferentiated bedrock. According to the USGS topographic maps and aerial imagery, there are no active mines or stone quarries within the limits of the Project. A search of the Virginia Energy online map confirms there are no active mines within the Project right-of-way. There is one inactive mine (the Manassas #1 Mine) within and adjacent to the Project right-of-way, which was previously operating under Mineral Mining Permit No. 05677AA prior to release of the permit. The coordinates of this mine are provided in the table below.

The Manassas #1 Mine and associated facilities were located on property to the south and east of the proposed Line #2011 Extension. The property on which the mine was previously located has been reclaimed and developed for the construction/operation of the Winters Branch Substation and industrial and commercial facilities. Construction of these facilities is ongoing. Based on the current land uses on the property, the Company does not anticipate that the Project will result in negative impacts to the geology or mineral resources within the Project area.

Table 5. Summary of active and inactive mines within a 1.0-mile radius of the Project

Mine Name	Permit Number	Status	Latitude	Longitude
Manassas #1	05677AA	Inactive	38.736621	-77.507644

The Project is located in the Piedmont physiographic province of Virginia, whose geology consists of a series of igneous and metamorphic rocks.

N. Transportation Infrastructure

Within the Project area, the proposed Line #2011 Extension variable width right-of-way expansion originates south of Cannon Branch Substation in the City of Manassas and continues west-southwest for approximately 0.65 mile to the intersection of Prince William Parkway (Route 234) and the Norfolk Southern Railroad and approximately 0.40 mile southeast to Winters Branch Substation, which is located directly east of Prince William Parkway in Prince William County, Virginia. The proposed right-of-way expansion varies in width from 50 feet to 120 feet and parallels an existing, variable width right-of-way, which ranges from 60 feet to 120 feet, containing 230 kV Lines #2195 and #2148. The existing, variable width right-of-way containing Lines #2195 and #2148 directly parallels the Norfolk Southern Railroad to the south and Prince William Parkway (Route 234) to the east. The new approximate 1.05-mile segment of Line #2011 will parallel Lines #2195 and #2148 to the south along the Norfolk Southern Railroad for approximately 0.65 mile to the intersection of the Norfolk Southern Railroad and Prince William Parkway (Route 234) and to the east along Prince William Parkway (Route 234) for approximately 0.40 mile to Winters Branch Substation. The proposed Line #2011 Extension crosses one major road in the City of Manassas, Godwin Drive. The Partial Line #2011 Removal does not cross any major or minor roads. In November 2021, the Company solicited the Virginia Department of Transportation (“VDOT”) Northern Virginia District for comments on the proposed Project.

The proposed Line #2011 Extension right-of-way does not cross any railroad tracks; however, the Partial Line #2011 Removal perpendicularly intersects existing Norfolk Southern Railroad directly southeast of Cannon Branch Substation. The easement from Cannon Branch Substation to Structure #2011/68 was acquired by condemnation in April 1995. The Cannon Branch Substation fee owned property was acquired in three parts: December 1958, September 1966, and February 2011. The

existing, variable width right-of-way containing Lines #2195 and #2148 directly parallels the Norfolk Southern Railroad to the south. The easements for Lines #2195 and #2148 were acquired in September 2012. The new approximate 1.05-mile segment of Line #2011 will parallel Lines #2195 and #2148 to the south along the Norfolk Southern Railroad for approximately 0.65 mile to Winters Branch. In November 2021, the Company solicited the Norfolk Southern Railroad for comments on the proposed Project.

The Federal Aviation Administration (“FAA”) is responsible for overseeing air transportation in the United States. The FAA manages air traffic in the United States and evaluates physical objects that may affect the safety of aeronautical operations through an obstruction evaluation. The prime objective of the FAA in conducting an obstruction evaluation is to ensure the safety of air navigation and the efficient utilization of navigable airspace by aircraft.

The FAA’s website (<https://oeaaa.faa.gov/oeaaa/external/portal.jsp>) was reviewed to identify airports within 10 miles of the proposed Project. Based on this review, one FAA-restricted airport was identified:

- Manassas Regional Airport, approximately 0.35 mile southwest of Winters Branch Substation

In November 2021, the Company solicited comments from the Virginia Department of Aviation (“DOAv”) regarding the proposed Project. In an email response dated November 4, 2021, the DOAv stated that due to the proximity of the proposed Project to the Manassas Regional Airport, a Form 7460 must be submitted to the Federal Aviation Administration (“FAA”) to determine if the project constitutes a hazard to air navigation. This email is included as Attachment 2.N.1. The Company will file Form 7460 with the FAA as requested.

Seven private helipads and seven private airports are located within 10 miles of the line. The Company will work with the private entities as appropriate.

The Company will coordinate with VDOT, DOAv, and the FAA as necessary to obtain all appropriate approvals. Anticipated transportation permits are presented in Table 6 below.

Table 6. Anticipated Transportation Permits

Activity	Permit	Agency
Work within VDOT right-of-way	Land Use Permit (Construction Entrance and Aerial Crossing Permits)	Virginia Department of Transportation
Work within Norfolk Southern Railroad right-of-way	Railroad Permit	Norfolk Southern Railroad
Construction within 5,000 feet of helipads associated buildings and Construction within 20,000 feet of an airport with a runway greater than 3,200 feet in length	Notice of Proposed Construction or Alteration	Federal Aviation Administration

Attachments

November 2, 2021

BY EMAIL

Ms. Rene Hypes
Virginia Department of Conservation and Recreation
Environmental Review Coordinator, Natural Heritage Program
600 East Main Street, Suite 1400
Richmond, Virginia 23219

**RE: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project
City of Manassas and Prince William County, Virginia**

Dear Ms. Hypes,

Dominion Energy Virginia (the "Company") is proposing the Line #2011 Extension from Cannon Branch to Winters Branch Project (the "Project") within City of Manassas and Prince William County, Virginia ("Manassas Area"). The Project is being completed to meet load growth in the Manassas Area.

Specifically, the Company is proposing to remove approximately 0.06 mile of the existing 230 kilovolt ("kV") Line #2011 termination between Cannon Branch Substation and Structure #2011/68 and construct a new approximately 1.05-mile segment of 230 kV Line #2011 starting south of Cannon Branch Substation and terminating at Winters Branch Substation. The Company is also proposing related work at **the Company's** existing Cannon Branch and Winters Branch Substations to support the Project.

The Company is in the process of preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") from the State Corporation Commission of Virginia ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that you submit any comments or additional information on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or rachel.m.studebaker@dominionenergy.com.

We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

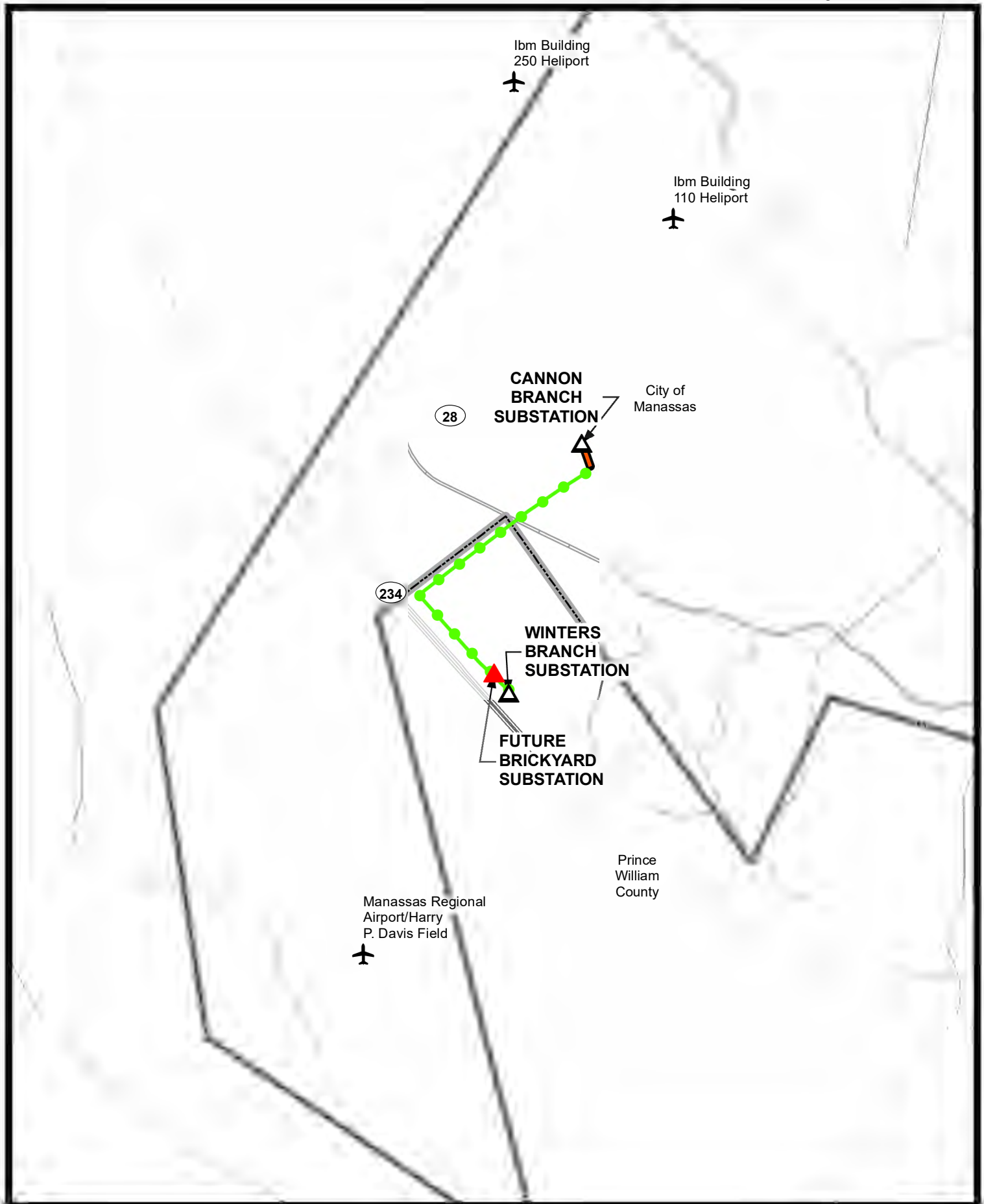
Dominion Energy Virginia



Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

NOTICE MAP



LEGEND

- PROPOSED 230 KV LINE 2011 EXTENSION
- REMOVE EXISTING 230 KV LINE 2011

- COUNTY LINES
- EXISTING SUBSTATION
- FUTURE SUBSTATION

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219
DominionEnergy.com



November 2, 2021

BY EMAIL

Mr. Terry Lasher
Forestland Conservation Division
Virginia Department of Forestry
900 Natural Resources Drive, Suite 800
Charlottesville, Virginia 22903

**RE: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project
City of Manassas and Prince William County, Virginia**

Dear Mr. Lasher,

Dominion Energy Virginia (the "Company") is proposing the Line #2011 Extension from Cannon Branch to Winters Branch Project (the "Project") within City of Manassas and Prince William County, Virginia ("Manassas Area"). The Project is being completed to meet load growth in the Manassas Area.

Specifically, the Company is proposing to remove approximately 0.06 mile of the existing 230 kilovolt ("kV") Line #2011 termination between Cannon Branch Substation and Structure #2011/68 and construct a new approximately 1.05-mile segment of 230 kV Line #2011 starting south of Cannon Branch Substation and terminating at Winters Branch Substation. The Company is also proposing related work at **the Company's** existing Cannon Branch and Winters Branch Substations to support the Project.

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We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "J-P-E", written over the printed name of Jason P. Ericson.

Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

November 2, 2021

BY EMAIL

Ms. Anna Lawston, Chief
US Army Corps of Engineers
Norfolk District – Northern Section
P.O. Box 489
Amissville, Virginia 20106

**RE: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project
City of Manassas and Prince William County, Virginia**

Dear Ms. Lawston,

Dominion Energy Virginia (the "Company") is proposing the Line #2011 Extension from Cannon Branch to Winters Branch Project (the "Project") within City of Manassas and Prince William County, Virginia ("Manassas Area"). The Project is being completed to meet load growth in the Manassas Area.

Specifically, the Company is proposing to remove approximately 0.06 mile of the existing 230 kilovolt ("kV") Line #2011 termination between Cannon Branch Substation and Structure #2011/68 and construct a new approximately 1.05-mile segment of 230 kV Line #2011 starting south of Cannon Branch Substation and terminating at Winters Branch Substation. The Company is also proposing related work at the Company's existing Cannon Branch and Winters Branch Substations to support the Project.

The Company is in the process of preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") from the State Corporation Commission of Virginia ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that you submit any comments or additional information on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or rachel.m.studebaker@dominionenergy.com.

We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia



Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

November 2, 2021

BY EMAIL

Ms. Bettina Rayfield, Manager
Office of Environmental Impact Review
Department of Environmental Quality, Central Office
PO Box 1105
Richmond, Virginia 23218

**RE: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project
City of Manassas and Prince William County, Virginia**

Dear Ms. Rayfield,

Dominion Energy Virginia (the "Company") is proposing the Line #2011 Extension from Cannon Branch to Winters Branch Project (the "Project") within City of Manassas and Prince William County, Virginia ("Manassas Area"). The Project is being completed to meet load growth in the Manassas Area.

Specifically, the Company is proposing to remove approximately 0.06 mile of the existing 230 kilovolt ("kV") Line #2011 termination between Cannon Branch Substation and Structure #2011/68 and construct a new approximately 1.05-mile segment of 230 kV Line #2011 starting south of Cannon Branch Substation and terminating at Winters Branch Substation. The Company is also proposing **related work at the Company's** existing Cannon Branch and Winters Branch Substations to support the Project.

The Company is in the process of preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") from the State Corporation Commission of Virginia ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that you submit any comments or additional information on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or rachel.m.studebaker@dominionenergy.com.

We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia



Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219
DominionEnergy.com



November 2, 2021

BY EMAIL

Ms. Robbie Rhur
Planning Bureau
Department of Conservation and Recreation
600 East Main Street, 17th Floor
Richmond, Virginia 23219

**RE: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project
City of Manassas and Prince William County, Virginia**

Dear Ms. Rhur,

Dominion Energy Virginia (the "Company") is proposing the Line #2011 Extension from Cannon Branch to Winters Branch Project (the "Project") within City of Manassas and Prince William County, Virginia ("Manassas Area"). The Project is being completed to meet load growth in the Manassas Area.

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We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "J-P-E", written over the printed name of Jason P. Ericson.

Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

November 2, 2021

BY EMAIL

Mr. Keith Tignor
Endangered Plant and Insect Species Program
Virginia Department of Agriculture and Consumer Affairs
102 Governor Street
Richmond, Virginia 23219

**RE: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project
City of Manassas and Prince William County, Virginia**

Dear Mr. Tignor,

Dominion Energy Virginia (the "Company") is proposing the Line #2011 Extension from Cannon Branch to Winters Branch Project (the "Project") within City of Manassas and Prince William County, Virginia ("Manassas Area"). The Project is being completed to meet load growth in the Manassas Area.

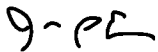
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Sincerely,

Dominion Energy Virginia



Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219
DominionEnergy.com



November 2, 2021

BY EMAIL

Mr. Troy Andersen
US Fish and Wildlife Service
Ecological Services Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061

**RE: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project
City of Manassas and Prince William County, Virginia**

Dear Mr. Andersen,

Dominion Energy Virginia (the "Company") is proposing the Line #2011 Extension from Cannon Branch to Winters Branch Project (the "Project") within City of Manassas and Prince William County, Virginia ("Manassas Area"). The Project is being completed to meet load growth in the Manassas Area.

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Sincerely,

Dominion Energy Virginia

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Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

November 2, 2021

BY EMAIL

Mr. Mark Eversole
Habitat Management Division
Virginia Marine Resources Commission
Building 96, 380 Fenwick Road
Fort Monroe, Virginia 23651

**RE: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project
City of Manassas and Prince William County, Virginia**

Dear Mr. Eversole,

Dominion Energy Virginia (the "Company") is proposing the Line #2011 Extension from Cannon Branch to Winters Branch Project (the "Project") within City of Manassas and Prince William County, Virginia ("Manassas Area"). The Project is being completed to meet load growth in the Manassas Area.

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We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia



Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map



November 2, 2021

BY EMAIL

Ms. Amy M. Ewing
Virginia Department of Wildlife Resources
P.O. Box 90778
Henrico, Virginia 23228

**RE: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project
City of Manassas and Prince William County, Virginia**

Dear Ms. Ewing,

Dominion Energy Virginia (the "Company") is proposing the Line #2011 Extension from Cannon Branch to Winters Branch Project (the "Project") within City of Manassas and Prince William County, Virginia ("Manassas Area"). The Project is being completed to meet load growth in the Manassas Area.

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We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "J-P-E", located below the printed name of Jason P. Ericson.

Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

Dominion Energy Virginia
10900 Nuckolls Road, 4th Floor
Glen Allen, VA 23060
DominionEnergy.com



November 2, 2021

BY EMAIL

Mr. Roger Kirchen
Virginia Department of Historic Resources
Review and Compliance Division
2801 Kensington Avenue
Richmond, Virginia 23221

**RE: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project
City of Manassas and Prince William County, Virginia**

Dear Mr. Kirchen,

Dominion Energy Virginia (the "Company") is proposing the Line #2011 Extension from Cannon Branch to Winters Branch Project (the "Project") within City of Manassas and Prince William County, Virginia ("Manassas Area"). The Project is being completed to meet load growth in the Manassas Area.

Specifically, the Company is proposing to remove approximately 0.06 mile of the existing 230 kilovolt ("kV") Line #2011 termination between Cannon Branch Substation and Structure #2011/68 and construct a new approximately 1.05-mile segment of 230 kV Line #2011 starting south of Cannon Branch Substation and terminating at Winters Branch Substation. The Company is also proposing related work at the Company's existing Cannon Branch and Winters Branch Substations to support the Project.

The Company is in the process of preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") from the State Corporation Commission of Virginia ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that you submit any comments or additional information on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact Craig Hurd at (804) 201-5020 or Craig.R.Hurd@dominionenergy.com.

We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

A handwritten signature in black ink that reads "Craig Hurd".

Craig R. Hurd
Siting & Permitting Specialist, Electric Transmission

Attachment: Project Notice Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor
Glen Allen, VA 23060
DominionEnergy.com



November 2, 2021

BY EMAIL

Mr. Abraham Lerner, P.E.
Associate Manager of Special Project Development
VDOT-NOVA District
4975 Alliance Drive
Fairfax, Virginia 22030

**RE: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project
City of Manassas and Prince William County, Virginia**

Dear Mr. Lerner,

Dominion Energy Virginia (the "Company") is proposing the Line #2011 Extension from Cannon Branch to Winters Branch Project (the "Project") within City of Manassas and Prince William County, Virginia ("Manassas Area"). The Project is being completed to meet load growth in the Manassas Area.

Specifically, the Company is proposing to remove approximately 0.06 mile of the existing 230 kilovolt ("kV") Line #2011 termination between Cannon Branch Substation and Structure #2011/68 and construct a new approximately 1.05-mile segment of 230 kV Line #2011 starting south of Cannon Branch Substation and terminating at Winters Branch Substation. The Company is also proposing related work at the Company's existing Cannon Branch and Winters Branch Substations to support the Project.

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We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

A handwritten signature in black ink that reads 'Craig Hurd' in a cursive script.

Craig R. Hurd
Siting & Permitting Specialist, Electric Transmission

Attachment: Project Notice Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor
Glen Allen, VA 23060
DominionEnergy.com



November 2, 2021

BY EMAIL

Ms. Martha Little
Deputy Director, Conservation
Virginia Outdoors Foundation
600 East Main Street, Suite 402
Richmond, Virginia 23219

**RE: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project
City of Manassas and Prince William County, Virginia**

Dear Ms. Little:

Dominion Energy Virginia (the "Company") is proposing the Line #2011 Extension from Cannon Branch to Winters Branch Project (the "Project") within City of Manassas and Prince William County, Virginia ("Manassas Area"). The Project is being completed to meet load growth in the Manassas Area.

Specifically, the Company is proposing to remove approximately 0.06 mile of the existing 230 kilovolt ("kV") Line #2011 termination between Cannon Branch Substation and Structure #2011/68 and construct a new approximately 1.05-mile segment of 230 kV Line #2011 starting south of Cannon Branch Substation and terminating at Winters Branch Substation. The Company is also proposing related work at the Company's existing Cannon Branch and Winters Branch Substations to support the Project.

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We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

A handwritten signature in black ink that reads 'Craig Hurd' in a cursive, flowing script.

Craig R. Hurd
Siting & Permitting Specialist, Electric Transmission

Attachment: Project Notice Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor
Glen Allen, VA 23060
DominionEnergy.com



November 2, 2021

BY EMAIL

Mr. Scott Denny
Virginia Department of Aviation
Airport Services Division
5702 Gulfstream Road
Richmond, Virginia 23250

**RE: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project
City of Manassas and Prince William County, Virginia**

Dear Mr. Denny:

Dominion Energy Virginia (the "Company") is proposing the Line #2011 Extension from Cannon Branch to Winters Branch Project (the "Project") within City of Manassas and Prince William County, Virginia ("Manassas Area"). The Project is being completed to meet load growth in the Manassas Area.

Specifically, the Company is proposing to remove approximately 0.06 mile of the existing 230 kilovolt ("kV") Line #2011 termination between Cannon Branch Substation and Structure #2011/68 and construct a new approximately 1.05-mile segment of 230 kV Line #2011 starting south of Cannon Branch Substation and terminating at Winters Branch Substation. The Company is also proposing related work at the Company's existing Cannon Branch and Winters Branch Substations to support the Project.

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We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

A handwritten signature in black ink that reads "Craig Hurd". The signature is written in a cursive, flowing style.

Craig R. Hurd
Siting & Permitting Specialist, Electric Transmission

Attachment: Project Notice Map

November 2, 2021

BY EMAIL

Mr. Jason Shepard
Property Manager, Roanoke Region
Norfolk Southern Railroad
209 Shenandoah Ave NE
Roanoke, VA 24016

**RE: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project
City of Manassas and Prince William County, Virginia**

Dear Mr. Shepard:

Dominion Energy Virginia (the "Company") is proposing the Line #2011 Extension from Cannon Branch to Winters Branch Project (the "Project") within City of Manassas and Prince William County, Virginia ("Manassas Area"). The Project is being completed to meet load growth in the Manassas Area.

Specifically, the Company is proposing to remove approximately 0.06 mile of the existing 230 kilovolt ("kV") Line #2011 termination between Cannon Branch Substation and Structure #2011/68 and construct a new approximately 1.05-mile segment of 230 kV Line #2011 starting south of Cannon Branch Substation and terminating at Winters Branch Substation. The Company is also proposing related work at the Company's existing Cannon Branch and Winters Branch Substations to support the Project.

The Company is in the process of preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") from the State Corporation Commission of Virginia ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that you submit any comments or additional information on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact Craig Hurd at (804) 201-5020 or Craig.R.Hurd@dominionenergy.com.

We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

A handwritten signature in black ink that reads "Craig Hurd". The signature is written in a cursive, flowing style.

Craig R. Hurd
Siting & Permitting Specialist, Electric Transmission

Attachment: Project Notice Map



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

1111 E. Main Street, Suite 1400, Richmond, Virginia 23219

P.O. Box 1105, Richmond, Virginia 23218

(800) 592-5482 FAX (804) 698-4178

www.deq.virginia.gov

Ann F. Jennings
Secretary of Natural and Historic Resources

David K. Paylor
Director
(804) 698-4000

November 10, 2021

Rachel Studebaker
Dominion Energy Services
120 Tredegar Street
Richmond, VA 23219

RE: Dominion Energy Virginia Line #2011 Extension from Cannon Branch to Winters Branch
Project. City of Manassas and Prince William County, Virginia

Dear Ms. Studebaker:

This letter is in response to the scoping request for the above-referenced project.

As you may know, the Department of Environmental Quality, through its Office of Environmental Impact Review (DEQ-OEIR), is responsible for coordinating Virginia's review of environmental impacts for electric power generating projects and power line projects in conjunction with the licensing process of the State Corporation Commission.

DOCUMENT SUBMISSIONS

In order to ensure an effective coordinated review of the environmental impact analysis may be sent directly to OEIR. We request that you submit one electronic to eir@deq.virginia.gov (25 MB maximum) or make the documents available for download at a website, file transfer protocol (ftp) site or the VITA LFT file share system (Requires an "invitation" for access. An invitation request should be sent to eir@deq.virginia.gov). The required "Wetlands Impact Consultation" can be sent directly to Michelle Henicheck at michelle.henicheck@deq.virginia.gov or at the address above.

ENVIRONMENTAL REVIEW UNDER VIRGINIA CODE 56-46.1

While this Office does not participate in scoping efforts beyond the advice given herein, other agencies are free to provide scoping comments concerning the preparation of the environmental impact analysis document. Accordingly, we have coordinated your request with the following state agencies and those localities and Planning District Commissions, including but not limited to:

Department of Environmental Quality:
○ DEQ Regional Office

- Air Division
- Office of Wetlands and Stream Protection
- Office of Local Government Programs
- Division of Land Protection and Revitalization
- Office of Stormwater Management

Department of Conservation and Recreation
Department of Health
Department of Agriculture and Consumer Services
Department of Wildlife Resources
Virginia Marine Resources Commission
Department of Historic Resources
Department of Mines, Minerals, and Energy
Department of Forestry
Department of Transportation

DATA BASE ASSISTANCE

Below is a list of databases that may assist you in the preparation of a NEPA document:

- DEQ Online Database: Virginia Environmental Geographic Information Systems

Information on Permitted Solid Waste Management Facilities, Impaired Waters, Petroleum Releases, Registered Petroleum Facilities, Permitted Discharge (Virginia Pollution Discharge Elimination System Permits) Facilities, Resource Conservation and Recovery Act (RCRA) Sites, Water Monitoring Stations, National Wetlands Inventory:

- www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx

- DEQ Virginia Coastal Geospatial and Educational Mapping System (GEMS)

Virginia's coastal resource data and maps; coastal laws and policies; facts on coastal resource values; and direct links to collaborating agencies responsible for current data:

- <http://128.172.160.131/gems2/>

- MARCO Mid-Atlantic Ocean Data Portal

The Mid-Atlantic Ocean Data Portal is a publicly available online toolkit and resource center that consolidates available data and enables users to visualize and analyze ocean resources and human use information such as fishing grounds, recreational areas, shipping lanes, habitat areas, and energy sites, among others.

<http://portal.midatlanticocean.org/visualize/#x=-73.24&y=38.93&z=7&logo=true&controls=true&basemap=Ocean&tab=data&legends=false&layers=true>

- DHR Data Sharing System.

Survey records in the DHR inventory:

- www.dhr.virginia.gov/archives/data_sharing_sys.htm

- DCR Natural Heritage Search

Produces lists of resources that occur in specific counties, watersheds or physiographic regions:

- www.dcr.virginia.gov/natural_heritage/dbsearchtool.shtml

- DWR Fish and Wildlife Information Service

Information about Virginia's Wildlife resources:

- <http://vafwis.org/fwis/>

- Total Maximum Daily Loads Approved Reports

- <https://www.deq.virginia.gov/programs/water/waterqualityinformationtmdls/tmdl/tmdldevelopment/approvedtmdlreports.aspx>

- Virginia Outdoors Foundation: Identify VOF-protected land

- <http://vof.maps.arcgis.com/home/index.html>

- Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Database: Superfund Information Systems

Information on hazardous waste sites, potentially hazardous waste sites and remedial activities across the nation, including sites that are on the National Priorities List (NPL) or being considered for the NPL:

- www.epa.gov/superfund/sites/cursites/index.htm

- EPA RCRAInfo Search

Information on hazardous waste facilities:

- www.epa.gov/enviro/facts/rcrainfo/search.html

- Total Maximum Daily Loads Approved Reports

- <https://www.deq.virginia.gov/programs/water/waterqualityinformationtmdls/tmdl/tmdldevelopment/approvedtmdlreports.aspx>

- EPA Envirofacts Database

EPA Environmental Information, including EPA-Regulated Facilities and Toxics Release Inventory Reports:

- www.epa.gov/enviro/index.html

- EPA NEPAassist Database

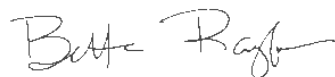
Facilitates the environmental review process and project planning:

- <http://nepaassisttool.epa.gov/nepaassist/entry.aspx>

If you have questions about the environmental review process, please feel free to contact me (telephone (804) 698-4204 or e-mail bettina.rayfield@deq.virginia.gov).

I hope this information is helpful to you.

Sincerely,

A handwritten signature in black ink, appearing to read "Bettina Rayfield". The signature is fluid and cursive, with the first name "Bettina" and last name "Rayfield" clearly distinguishable.

Bettina Rayfield, Program Manager
Environmental Impact Review and
Long-Range Priorities



COMMONWEALTH of VIRGINIA

Ann F. Jennings
Secretary of Natural and Historic
Resources

Marine Resources Commission
380 Fenwick Road
Bldg 96
Fort Monroe, VA 23651-1064

Steven G. Bowman
Commissioner

November 9, 2021

Dominion Energy Services
120 Tredegar Street
Richmond, VA 23219

Re: Line #2011 Extension from Cannon Branch to Winters
Branch Project

Dear Ms. Studebaker,

This will respond to the request for comments regarding the Line #2011 Extension from Cannon Branch to Winters Branch Project, prepared by Dominion Energy Services. Specifically, Dominion Energy has proposed to remove approximately 0.06 mile of the existing 230 kilovolt (kV) Line #2011 termination between Cannon Branch Substation and Structure #2011/68 and construct a new approximately 1.05-mile segment of 230 kV Line #2011 starting south of Cannon Branch Substation and terminating at Winters Branch Substation in the City of Manassas and Prince William County, Virginia. We reviewed the provided project documents and found the proposed project is outside the jurisdictional areas of the Virginia Marine Resources Commission (VMRC) and will not require a permit from this agency.

Please be advised that the VMRC, pursuant to §28.2-1200 et seq of the Code of Virginia, has jurisdiction over encroachments in, on, or over the beds of the bays, ocean, rivers, streams, or creeks which are the property of the Commonwealth. Accordingly, if any portion of the subject project involves any encroachments channelward of ordinary high water along non-tidal, natural rivers and streams with a drainage area greater than 5-square miles, a permit may be required from our agency. Any jurisdictional impacts will be reviewed by the VMRC during the JPA process. Should the proposed project change, a new review by this agency may be required relative to these jurisdictional areas.

Please contact me at (757) 247-8028 or by email at mark.eversole@mrc.virginia.gov if you have questions. Thank you for the opportunity to comment.

Sincerely,

Mark Eversole
Environmental Engineer, Habitat Management

An Agency of the Natural Resources Secretariat
www.mrc.virginia.gov

Telephone (757) 247-2200 (757) 247-2292 V/TDD Information and Emergency Hotline 1-800-541-4646 V/TDD

Dominion Energy Services
November 9, 2021
Page Two

ME/cg
HM



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

September 29, 2021

PRELIMINARY JURISDICTIONAL DETERMINATION

Northern Virginia Regulatory Section
NAO-2021-01690 (Cannon Branch tributary)

Dominion Energy
c/o: Mark Allen
10900 Nuckols Road, 4th floor
Glen Allen, Virginia 23060

Dear Mr. Allen:

This letter is regarding your request for a preliminary jurisdictional determination of the aquatic resources, on an approximately 10-acre property known as the Dominion Energy TL 2011 Cannon to Winters project site. The project site is located northeast of the Norfolk Southern/Prince William Parkway intersection in the City of Manassas and in Prince William County, Virginia.

The map titled "Waters of the US Delineation Map – Cannon Branch to Winters Branch", submitted by RES dated January 6, 2021 and received by the U.S. Army Corps of Engineers (Corps) on June 18, 2021 provides the locations of the aquatic resources within the project area. The basis for this delineation includes application of the Corps' 1987 Wetland Delineation Manual, the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Mountainous and Piedmont Regions, the presence of wetland hydrology, hydric soils, and hydrophytic vegetation and the presence of an ordinary high-water mark. **This letter confirms waters located only within the study boundaries, is not confirming the Cowardin classifications of these aquatic resources and does not authorize any work in these areas.**

Please be aware that you may be required to obtain a Corps permit for any discharge of dredged and/or fill material, either temporary or permanent, into a water of the U.S. In addition, you may be required to obtain a Corps permit for certain activities occurring within, under, or over a navigable water of the U.S. subject to the Section 10 of the Rivers and Harbors Act. Furthermore, you may be required to obtain state and local authorizations, including a Virginia Water Protection Permit from the Virginia Department of Environmental Quality (DEQ), a permit from the Virginia Marine Resources Commission (VMRC), and/or a permit from your local wetlands board.

This delineation and preliminary jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. Therefore, if you or your tenant are US Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should discuss the

NAO-2021-01690 (Cannon Branch tributary)

applicability of a certified wetland determination with the local USDA service center, prior to starting work.

The Norfolk District has relied on the information and data provided by the requestor or agent to make this preliminary determination. If it is determined such information and data are materially false or materially incomplete, a new preliminary determination would be necessary.

This is a preliminary jurisdictional determination and is not a legally binding determination regarding whether Corps jurisdiction applies to the aquatic resources in question. To determine Corps' jurisdiction, you may request and obtain an approved jurisdictional determination. **This preliminary jurisdictional determination and associated aquatic resource delineation map may be submitted with a permit application.**

This delineation of aquatic resources can be relied upon for no more than five years from the date of this letter. New information may warrant revision. Enclosed is a copy of the "Preliminary Jurisdictional Determination Form". Please review the document, sign, and return one copy to the Corps, either by email anna.r.lawston@usace.army.mil or by standard mail to Attn: Anna Lawston, U.S. Army Corps of Engineers, Norfolk District, CENAO-WR-R, PO Box 489, Amissville, VA 20106.

If you have any questions, please contact Anna Lawston either via telephone at (540)764-4459 or via email at anna.r.lawston@usace.army.mil.

Sincerely,

Anna Lawston Digitally signed by Anna Lawston
Date: 2021.09.29 15:12:49 -04'00'

Anna R. Lawston
Environmental Scientist
Northern Virginia Regulatory Section



PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM
2021-01690 Dominion TL-2011 Cannon to Winters

BACKGROUND INFORMATION

A. **REPORT COMPLETION DATE FOR PJD:** 29-Sept-2021

B. **NAME AND ADDRESS OF PERSON REQUESTING PJD:**

Dominion Energy
c/o: Mark Allen
10900 Nuckols Road, 4th floor
Glen Allen, Virginia 23060

C. **DISTRICT OFFICE, FILE NAME, AND NUMBER:**

NAO, Dominion TL-2011 Cannon to Winters, NAO-2021-01690-ARL

D. **PROJECT LOCATION(S) AND BACKGROUND INFORMATION:**

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: VA County: Prince William City: City of Manassas
Center coordinates of site (lat/long in degree decimal format):
Lat.: 38.738029° Long.: -77.508094°
Universal Transverse Mercator: 18
Name of nearest waterbody: Cannon Branch

E. **REVIEW PERFORMED FOR SITE EVALUATION:**

X Office (Desk) Determination.
Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO
REGULATORY JURISDICTION.

Wetland/Water	Latitude	Longitude	Cowardin Class	Acreage	Class of aquatic resource (Tidal/Non-tidal, Section 10/404)
PEM-S1	38.736400	-77.511149	PEM	0.24	Non-Tidal
PEM-S2	38.737903	-77.510808	PEM	0.04	Non-Tidal
PEM-S4	38.739383	-77.508328	PEM	0.12	Non-Tidal

- 1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less

¹ Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM
2021-01690 Dominion TL-2011 Cannon to Winters

compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "may be" waters of the U.S. and/or that there "may be" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- ☒ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
The map titled "Waters of the US Delineation Map – Cannon Branch to Winters Branch", submitted by RES dated January 6, 2021 and received by the U.S. Army Corps of Engineers (Corps) on June 18, 2021
- ☒ Data sheets prepared/submitted by or on behalf of the PJD requestor.
 - ☒ Office concurs with data sheets/delineation report.
 - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps: _____.
- ☐ Corps navigable waters' study: _____.
- ☐ U.S. Geological Survey Hydrologic Atlas: _____.
- ☐ USGS NHD data.
- ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: Independent Hill
- ☒ Natural Resources Conservation Service Soil Survey.
- ☐ National wetlands inventory map(s).

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

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PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM
2021-01690 Dominion TL-2011 Cannon to Winters

Anna Lawston

Digitally signed by Anna Lawston
Date: 2021.09.29 15:12:14 -04'00'

Signature and date of Regulatory staff
member completing PJD



Signature and date of person requesting
PJD (REQUIRED, unless obtaining the
signature is impracticable)¹

¹ Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

**Wetland Delineation Report Site Information Summary
Cannon Branch to Winters Branch
(10.19 Acres)
City of Manassas and Prince William County, Virginia**

Date

June 16, 2021

Applicant/Property Owner

Dominion Energy c/o Mark Allen
10900 Nuckols Road, 4th Floor
Glen Allen, Virginia 23060
(804) 257-4711
mark.allen@dominionenergy.com

Latitude/ Longitude in Decimal Degrees using coordinate plane (NAD 1983)

Start: 38.743175, -77.501900 End: 38.732239, -77.507139

Has a previous delineation or JD been performed?

No knowledge of a previous delineation.

Hydrologic Unit Code (HUC)

8-Digit HUC – 02070010 – Middle Potomac-Anacostia-Occoquan
10-Digit HUC – 0207001005 – Broad Run
12-Digit HUC – 020700100504 – Broad Run-Rocky Branch

USGS Topographic Sheet

Nokesville Quadrangle

Nearest Waterbody

Cannon Branch is a nontidal system runs that runs from north-to-south approximately a quarter mile west from the western most limits of the project limits. Additionally, a non-tidal unnamed tributary to Cannon Branch runs east-to-west towards Cannon Branch and lies approximately a third of a mile south of the middle of the project limits.

Delineation Methods

U.S. Army Corps of Engineers 1987 Wetland Delineation Manual in conjunction with the April 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountain and Piedmont Region (Version 2.0), and the 2018 U.S. Army Corps of Engineers National Wetland Plant List.

On-Site Investigation Date

Wetland boundary delineation and site data collection were conducted between December 8-10, 2020.

Wetland Delineation Plan

The proposed wetland boundaries and Data Sampling Point locations are depicted on the plan entitled "Waters of the U.S. Delineation Map" prepared by Resource Environmental Solutions, LLC on May 13, 2021.

Wetland Investigation Results

Wetlands: A total of approximately 0.40 acres of non-tidal wetlands were identified within the 10.19-acre project during this investigation. All the total proposed wetland areas were identified as palustrine emergent wetlands (PEM). None of the wetlands identified within the project limits were observed to have a surface water, or other obvious connection to other WOUS features. All were observed to be isolated systems, within localized topographic depressions. These wetlands are described by Data Sampling Points DP-1 and DP-3, located in Appendix B.

Stream Channels: No stream channels with a bed, bank, and/or the presence of an ordinary high-water mark were identified within the project property.

Other Waters: No other waters were identified within the project limits.

Water bodies onsite identified as Section 10: No water bodies identified as Section 10 were observed within the project limits.

Uplands: Approximately 9.79 acres of the subject parcel were classified as uplands, as described by Data Sampling Points DP-2 and DP-4 provided in Appendix B.

100-Year Floodplains

As depicted on the Federal Emergency Management Agency's (FEMA) on-line Flood Insurance Rate Maps # 51153C0157D, effective date 1/5/1995, the subject property lies within Zone X, an area of minimal flood risk.

National Wetlands Inventory

The on-line National Wetland Inventory identifies the riverine habitat R4SBC within the subject property.

USDA Soil Survey

The on-line USDA Natural Resource Conservation Service Soil Survey identifies six distinct soil types throughout the project limits. Approximately 69.5% of the project was listed as a silt loam variation, apart from 5C Arcola-Nestoria complex, and 54B Urban land - Udorthents complex, which represented 11.6% and 18.9% of the project, respectively. All soil types were listed on the Virginia Hydric Soils List apart from 54B Urban land - Udorthents complex.

Table 1: Nation Resource Conservation Service Soils Table

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	Hydric Listing
4B	Arcola silt loam, 2 to 7 percent slopes	1.0	9.7%	Hydric
5C	Arcola-Nestoria complex, 7 to 15 percent slopes	1.2	11.6%	Hydric
35B	Manassas silt loam, 2 to 7 percent slopes	3.7	36.4%	Hydric
46B	Panorama silt loam, 2 to 7 percent slopes	0.3	3.3%	Hydric
46C	Panorama silt loam, 7 to 15 percent slopes	2.1	20.2%	Hydric
54B	Urban land - Udorthents complex, 0-7 percent slopes	1.9	18.9%	Non-Hydric
Totals for Project Limits		10.2	100%	

Table 2: Waters of the U.S. Table

Wetland/Water	Latitude	Longitude	Cowardin Class	Acreage	Class of aquatic resource (Tidal/Non-tidal, Section 10/404)
PEM-S1	38.736400	-77.511149	PEM	0.24	Non-Tidal
PEM-S2	38.737903	-77.510808	PEM	0.04	Non-Tidal
PEM-S4	38.739383	-77.508328	PEM	0.12	Non-Tidal



NORFOLK DISTRICT REGULATORY OFFICE PRE-APPLICATION AND/OR JURISDICTIONAL WATERS DETERMINATION REQUEST FORM

This form is used when you want to determine if areas on your property fall under regulatory requirements of the U.S. Army Corps of Engineers (USACE). Please supply the following information and supporting documents described below. This form can be filled out online and/or printed and then mailed, faxed, or e-mailed to the Norfolk District. Submitting this request authorizes the US Army Corps of Engineers to field inspect the property site, if necessary, to help in the determination process. **THIS FORM MUST BE SIGNED BY THE PROPERTY OWNER TO BE CONSIDERED A FORMAL REQUEST.**

The printed form and supporting documents should be mailed to:

U.S. Army Corps of Engineers, Norfolk District
Regulatory Office
803 Front Street
Norfolk, Virginia 23510-1096

Or faxed to (757) 201-7678

Or sent via e-mail to: CENAO.REG_ROD@usace.army.mil

Additional information on the Regulatory Program is available on our website at:
<http://www.nao.usace.army.mil/>

Please contact us at 757-201-7652 if you need any assistance with filling out this form.

Location and Information about Property to be subject to a Jurisdictional Determination:

1. Date of Request: **06/17/2021**
2. Project Name: **TL 2011 Cannon Branch to Winters Branch**
3. City or County where property located: **Prince William, Virginia and City of Manassas, Virginia**
4. Address of property and directions (attach a map of the property location and a copy of the property plat): **See attached maps.**
5. Coordinates of property (if known): **Start: 38.743175, -77.501900 End: 38.732239, -77.507139**
6. Size of property in acres: **10.19**
7. Tax Parcel Number / GPIN (if available): **N/A**
8. Name of Nearest Waterway: **Cannon Branch**

7. Brief Description of Proposed Activity, Reason for Preapplication Request, and/or Reason for Jurisdictional Waters Determination Request:
Utility line management

8. Has a wetland delineation/determination been completed by a consultant or the Corps on the property previously? ☐ YES ☐ NO ☒ UNKNOWN

If yes, please provide the name of the consultant and/or Corps staff and Corps permit number, if available:

Property Owner Contact Information:

Property Owner Name: Various. - Legal rights of entry are secured for access to the right-of-way.
Mailing Address:
City: State: Zip:
Daytime Telephone:
E-mail Address:

If the person requesting the Jurisdictional Determination is **NOT** the Property Owner, please also supply the Requestor's contact information here:

Requestor Name: Dominion Energy c/o Mark Allen
Mailing Address: 10900 Nuckols Road, 4th Floor
City: State: Zip: Glen Allen, Virginia 23060
Daytime Telephone: (804) 257-4711
E-mail Address: mark.allen@dominionenergy.com

Additionally, if you have any of the following information, please include it with your request: wetland delineation map, other relevant maps, drain tile survey, topographic survey, and/or site photographs.

CERTIFICATION: I am hereby requesting a preapplication consultation or jurisdictional waters and/or wetlands determination from the U.S. Army Corps of Engineers, for the property(ies) I have described herein. I agree to allow the duly authorized representatives of the Norfolk District Corps of Engineers and other regulatory or advisory agencies to enter upon the premises of the project site at reasonable times to evaluate inspect and photograph site conditions. This consent to enter the property is superior to, takes precedence over, and waives any communication to the contrary. For example, if the property is posted as "no trespassing" this consent specifically supercedes and waives that prohibition and grants permission to enter the property despite such posting. I hereby certify that the information contained in the Request for a Jurisdictional Determination is accurate and complete:



Property Owner's Signature

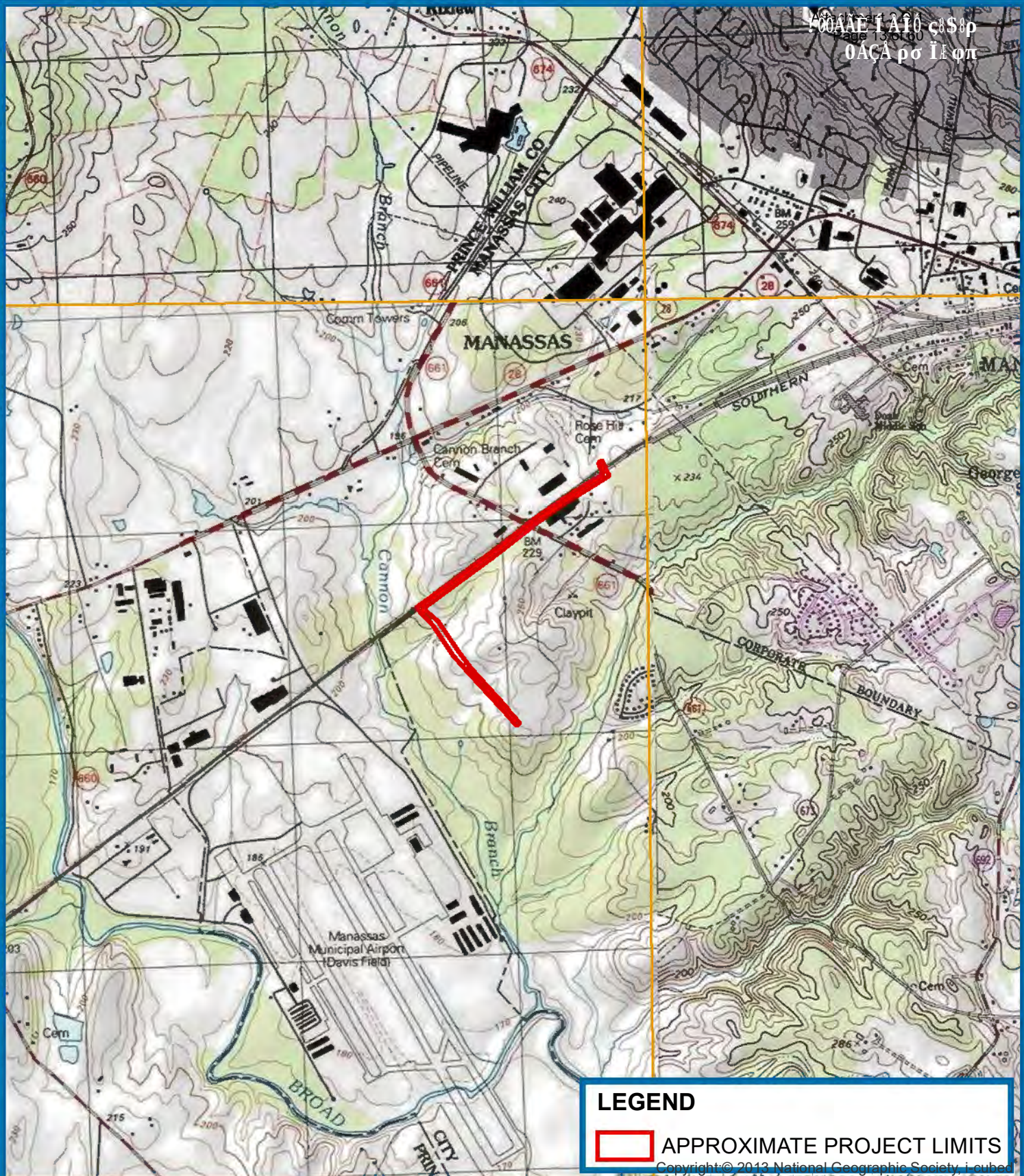
06/16/2021

Date

Attachment A

Figures:

**Project Location Map, Project Vicinity, National Wetland Inventory Map,
Aerial Imagery Map, NRCS Soils Map**



CORPORATE | 6575 WEST LOOP SOUTH, SUITE 300, BELLAIRE, TX 77401
P: 713.520.5400
www.res.us

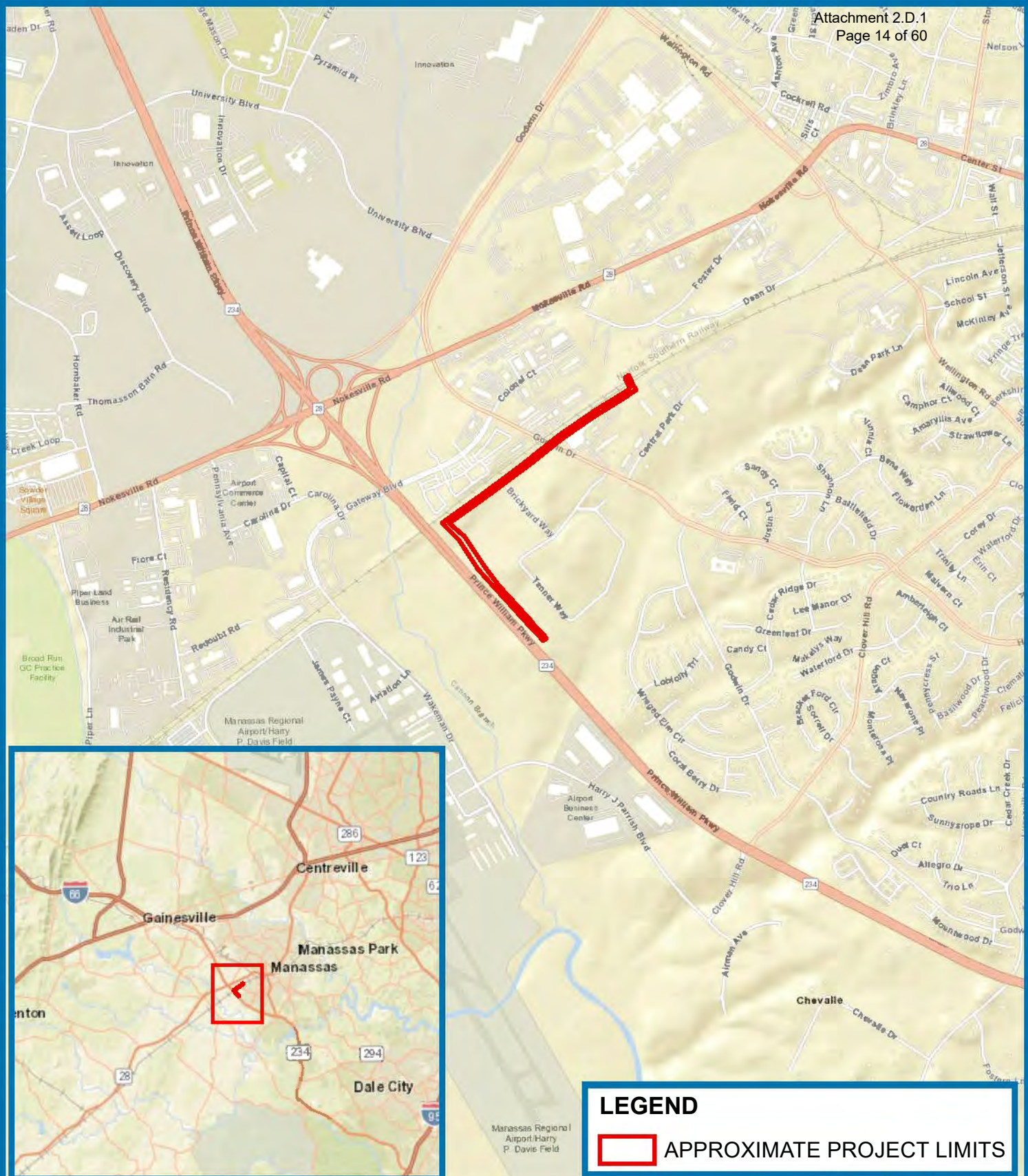
PROJECT LOCATION MAP

CANNON BRANCH TO
WINTERS BRANCH

CITY OF MANASSAS AND
PRINCE WILLIAM COUNTY,
VIRGINIA

USGS Topo Quads: Nokesville
Latitude: 38.738029
Longitude: -77.508094
Approx. Project Area: 10.19 acres
Elevation: 196 - 238 feet
Scale: 1 inch = 2,000 feet
Source: <http://resources.arcgis.com/>
USA Topo Maps





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VICINITY MAP
CANNON BRANCH TO WINTERS BRANCH
CITY OF MANASSAS AND PRINCE WILLIAM COUNTY, VIRGINIA

Street Map Source:
World Street Map
ESRI ArcGIS Online



1 inch = 2,000 feet



LEGEND

-  APPROXIMATE PROJECT LIMITS
-  NWI MAPPED WETLANDS



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www.res.us

NATIONAL WETLANDS INVENTORY MAP

CANNON BRANCH TO
WINTERS BRANCH

CITY OF MANASSAS AND
PRINCE WILLIAM COUNTY,
VIRGINIA

Digital Ortho Photo Source:
VBMP Most Recent Imagery
Virginia Lambert (VGIN)
National Inventory Wetlands (NWI)
Source
<http://www.fws.gov/>

1 inch = 500 feet





LEGEND

 APPROXIMATE PROJECT LIMITS



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P: 713.520.5400
www.res.us

AERIAL IMAGERY

CANNON BRANCH TO
WINTERS BRANCH

CITY OF MANASSAS AND
PRINCE WILLIAM COUNTY,
VIRGINIA

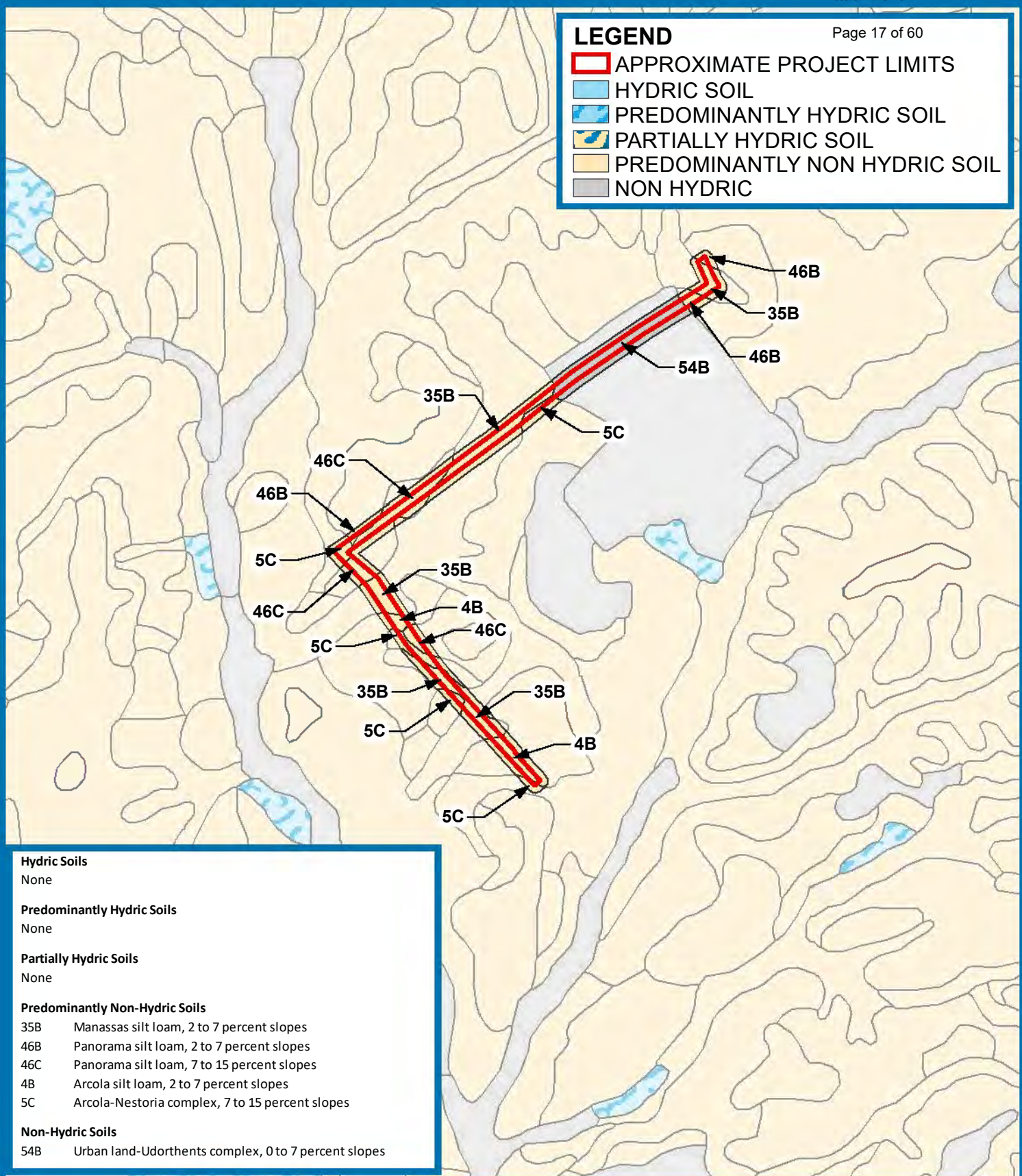
Digital Orthophoto Source:
VBMP Most Recent Imagery
Virginia Lambert (VGIN)



1 inch = 500 feet

LEGEND

- APPROXIMATE PROJECT LIMITS
- HYDRIC SOIL
- PREDOMINANTLY HYDRIC SOIL
- PARTIALLY HYDRIC SOIL
- PREDOMINANTLY NON HYDRIC SOIL
- NON HYDRIC



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P: 713.520.5400
www.res.us

SOILS MAP

**CANNON BRANCH TO
WINTERS BRANCH**

**CITY OF MANASSAS AND
PRINCE WILLIAM COUNTY,
VIRGINIA**

Source:
U.S. Department of Agriculture
Natural Resources
Conservation Service
Soil Survey Geographic
(SSURGO)

1 inch = 1,000 feet



Attachment B
Wetland Delineation Data Sheets

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont

Project/Site: Cannon Branch to Winters Branch	City/County: Prince William County	Sampling Date: 8-Dec-2020
Applicant/Owner: Dominion Energy	State: Virginia	Sampling Point: DP-1
Investigator(s): S. Vonada	Section, Township, Range: N/A	
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, convex, none): None	Slope (%): 7-15%
Subregion (LRR or MLRA): MLRA 136 S	Lat: 38.737878	Long: -77.510739
Soil Map Unit Name: 46C Panorama Silt Loam	Datum: NAD 83	
Soil Map Unit Name: 46C Panorama Silt Loam		NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? <u>Y</u> (If no, explain in remarks)		
Are vegetation <u>X</u> , soil <u>X</u> , or hydrology <u>X</u> significantly disturbed? Are "normal circumstances" present? <u>No</u>		
Are vegetation <u> </u> , soil <u> </u> , or hydrology <u> </u> naturally problematic? (If needed, explain any answers in remarks)		

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report)

Data Point 1 is located within a managed utility easement. As such, the conditions have been disturbed. The data point displays wetland features.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

☒ Surface Water (A1)	☐ True Aquatic Plants (B14)
☒ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)
☒ Saturation (A3)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)
☒ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)
☐ Iron Deposits (B5)	
☐ Inundation Visible on Aerial Imagery (B7)	
☐ Water-Stained Leaves (B9)	
☐ Aquatic Fauna (B13)	

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Drainage Patterns (B10)
☐ Moss Trim Lines (B16)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ Microtopographic Relief (D4)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes <u>X</u>	No <u>X</u>	Depth (inches): <u>2"</u>
Water table present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>Surface</u>
Saturation present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>Surface</u>

(includes capillary fringe)

Wetland Hydrology Present?Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Algae in surface water.

VEGETATION (Five Strata) – Use scientific names of plants.

Tree Stratum		Plot size: <u>r=30'</u>	Absolute % Cover	Dominant Species?	Indicator Status
1					
2					
3					
4					
5					
6					
7					
			0	= Total Cover	

Sapling stratum		Plot size: <u>r=15'</u>	Absolute % Cover	Dominant Species?	Indicator Status
1					
2					
3					
4					
5					
6					
7					
			0	= Total Cover	

Shrub stratum		Plot size: <u>r=15'</u>	Absolute % Cover	Dominant Species?	Indicator Status
1					
2					
3					
4					
5					
6					
7					
			0	= Total Cover	

Herb stratum		Plot size: <u>r=5'</u>	Absolute % Cover	Dominant Species?	Indicator Status
1	<i>Juncus coriaceus</i>		35	Y	FACW
2	<i>Typha angustifolia</i>		25	Y	OBL
3	<i>Scirpus cyperinus</i>		5	N	FACW
4	<i>Carex frankii</i>		5	N	OBL
5	<i>Cyperus esculentus</i>		2	N	FACW
6	<i>Andropogon virginicus</i>		2	N	FACU
7					
8					
9					
10					
11					
12					
			74	= Total Cover	

Woody vine stratum		Plot size: <u>r=30'</u>	Absolute % Cover	Dominant Species?	Indicator Status
1			10	Y	
2			5	Y	
3					
4					
5					
			15	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across all Strata:	4	(B)
Percent of Dominant Species that are OBL, FACW, or FAC:	50.00%	(A/B)

Prevalence Index Worksheet:

Total % Cover of:

OBL species	30	x 1 =	30
FACW species	42	x 2 =	84
FAC species	0	x 3 =	0
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column totals	74	(A)	122 (B)
Prevalence Index = B/A =			1.65

Hydrophytic Vegetation Indicators:

- 1 – Rapid Test for Hydrophytic Vegetation
- 2 – Dominance Test is >50%
- X 3 – Prevalence Index is $\leq 3.0^1$
- 4 – Morphological Adaptations¹ (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation¹ (explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Y

Remarks: (Include photo numbers here or on a separate sheet)

Hydrophytic vegetation was dominant at the data point.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (In.)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	2.5YR 5/3	100%					Clay	Gravel inclusions
3-5	10YR 6/1	80%	7.5YR 5/6	20%	C	M	Clay Loam	Gravel inclusions, Prominent
5-10	10R 4/2	100%					Clay Loam	Gravel inclusions

¹Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. ²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

☐ Histisol (A1)	☐ Dark Surface (S7)	☐ 2cm Muck (A10) (MLRA 147)
☐ Histic Epipedon (A2)	☐ Polyvalue Below Surface (S8) (MLRA 147, 148)	☐ Coast Prairie Redox (A16)
☐ Black Histic (A3)	☐ Thin Dark Surface (S9) (MLRA 147, 148)	☐ (MLRA 147, 148)
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	☐ Piedmont Floodplain Soils (F19)
☐ Stratified Layers (A5)	☒ Depleted Matrix (F3)	☐ (MLRA 136, 147)
☐ 2 cm Muck (A10) (LRR N)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (TF2)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Dark Surface (F7)	☐ Very Shallow Dark Surface (TF12)
☐ Thick Dark Surface (A12)	☐ Redox Depressions (F8)	☐ Other (explain in remarks)
☐ Sandy Mucky Mineral (S1)	☐ Iron-Manganese Masses (F12)	
☐ (LRR N, MLRA 147, 148)	☐ (LRR N, MLRA 136)	
☐ Sandy Gleyed Matrix (S4)	☐ Umbric Surface (F13) (MLRA 136, 122)	
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 148)	
☐ Stripped Matrix (S6)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Y

Remarks:

Refusal at 10" due to gravel compaction. A depleted matrix was observed at the data point.

PHOTOGRAPHS

Sampling Point:

DP-1



Photograph 1. DP-1 Soil



Photograph 2. DP-1 Vicinity

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont

Project/Site: Cannon Branch to Winters Branch	City/County: Prince William County	Sampling Date: 8-Dec-2020
Applicant/Owner: Dominion Energy	State: Virginia	Sampling Point: DP-2
Investigator(s): S. Vonada	Section, Township, Range: N/A	
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, convex, none): None	Slope (%): 7-15%
Subregion (LRR or MLRA): MLRA 136 S	Lat: 38.737998	Long: -77.510677
Soil Map Unit Name: 46C Panorama Silt Loam	Datum: NAD 83	
Soil NWI Classification: None		
Are climatic/hydrologic conditions of the site typical for this time of the year? <u>Y</u> (If no, explain in remarks)		
Are vegetation <u>X</u> , soil <u>X</u> , or hydrology <u>X</u> significantly disturbed? Are "normal circumstances" present? <u>No</u>		
Are vegetation <u> </u> , soil <u> </u> , or hydrology <u> </u> naturally problematic? (If needed, explain any answers in remarks)		

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report)

Data Point 2 is located within a managed utility easement. As such, the conditions have been disturbed. Data Point 2 is located slightly uphill of Data Point 1, and displays upland characteristics.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

☐ Surface Water (A1)	☐ True Aquatic Plants (B14)
☐ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)
☐ Saturation (A3)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)
☐ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)
☐ Iron Deposits (B5)	
☐ Inundation Visible on Aerial Imagery (B7)	
☐ Water-Stained Leaves (B9)	
☐ Aquatic Fauna (B13)	

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Drainage Patterns (B10)
☐ Moss Trim Lines (B16)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ Microtopographic Relief (D4)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u>N/A</u>
Water table present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u>N/A</u>
Saturation present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u>N/A</u>
(includes capillary fringe)			

Wetland Hydrology Present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators of wetland hydrology were observed.

VEGETATION (Five Strata) – Use scientific names of plants.

Tree Stratum	(Plot size: <u>r=30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1				
2				
3				
4				
5				
6				
7				
		0	= Total Cover	

Sapling stratum	(Plot size: <u>r=15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1				
2				
3				
4				
5				
6				
7				
		0	= Total Cover	

Shrub stratum	(Plot size: <u>r=15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1				
2				
3				
4				
5				
6				
7				
		0	= Total Cover	

Herb stratum	(Plot size: <u>r=5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1 <i>Eupatorium capillifolium</i>		30	Y	FACU
2 <i>Andropogon virginicus</i>		30	Y	FACU
3 <i>Solidago altissima</i>		10	N	FACU
4 <i>Dichanthelium scoparium</i>		5	N	FACW
5 <i>Euthamia graminifolia</i>		5	N	FAC
6 <i>Juncus effusus</i>		3	N	FACW
7 <i>Symphotrichum racemosum</i>		2	N	FACW
8				
9				
10				
11				
12				
		85	= Total Cover	

Woody vine stratum	(Plot size: <u>r=30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1		10	Y	
2		5	Y	
3				
4				
5				
		15	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across all Strata:	4	(B)
Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)

Prevalence Index Worksheet:

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	5	x 3 =	15
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column totals	85	(A)	315 (B)
Prevalence Index = B/A =			3.71

Hydrophytic Vegetation Indicators:

- 1 – Rapid Test for Hydrophytic Vegetation
 - 2 – Dominance Test is >50%
 - 3 – Prevalence Index is $\leq 3.0^1$
 - 4 – Morphological Adaptations¹ (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation¹ (explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? N

Remarks: (Include photo numbers here or on a separate sheet)

Hydrophytic vegetation was not dominant at the data point.

[illegible]²Location: PL = Pore Lining, M = Matrix

Indicators for Problematic Hydric Soils³:

_____ 2cm Muck (A10) **(MLRA 147)**
 _____ Coast Prairie Redox (A16)
 (MLRA 147, 148)
 _____ Piedmont Floodplain Soils (F19)
 (MLRA 136, 147)
 _____ Red Parent Material (TF2)
 _____ Very Shallow Dark Surface (TF12)
 _____ Other (explain in remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Type: _____
Depth (inches): _____

Hydric Soil Present? N

Hydric soil indicators were not observed at the data point.

PHOTOGRAPHS

Sampling Point:

DP-2



Photograph 1. DP-2 Soil



Photograph 2. DP-2 Vicinity

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont

Project/Site:	Cannon Branch to Winters Branch	City/County:	Prince William County	Sampling Date:	8-Dec-2020
Applicant/Owner:	Dominion Energy	State:	Virginia	Sampling Point:	DP-3
Investigator(s):	S. Vonada	Section, Township, Range:	N/A		
Landform (hillslope, terrace, etc.):	Flat	Local relief (concave, convex, none):	None	Slope (%):	2-7%
Subregion (LRR or MLRA):	MLRA 136 S	Lat:	38.739386	Long:	-77.508357
				Datum:	NAD 83
Soil Map Unit Name:	35B Manassas Silt Loam	NWI Classification:	None		
Are climatic/hydrologic conditions of the site typical for this time of the year? <u>Y</u> (If no, explain in remarks)					
Are vegetation <u>X</u> , soil <u>X</u> , or hydrology <u>X</u> significantly disturbed? Are "normal circumstances" present? <u>No</u>					
Are vegetation <u> </u> , soil <u> </u> , or hydrology <u> </u> naturally problematic? (If needed, explain any answers in remarks)					

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report)

Data Point 3 is located within a managed utility easement. As such, the conditions have been disturbed. The data point is within a localized depression and displays wetland characteristics.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

☐ Surface Water (A1)	☐ True Aquatic Plants (B14)
☒ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)
☒ Saturation (A3)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)
☐ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)
☐ Iron Deposits (B5)	
☐ Inundation Visible on Aerial Imagery (B7)	
☐ Water-Stained Leaves (B9)	
☐ Aquatic Fauna (B13)	

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Drainage Patterns (B10)
☐ Moss Trim Lines (B16)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ Microtopographic Relief (D4)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes ☐	No ☒	Depth (inches):	<u>N/A</u>
Water table present?	Yes ☒	No ☐	Depth (inches):	<u>1"</u>
Saturation present?	Yes ☒	No ☐	Depth (inches):	<u>Surface</u>

(includes capillary fringe)

Wetland Hydrology Present?Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A high water table and saturated soils were observed at the data point.

VEGETATION (Five Strata) – Use scientific names of plants.

Tree Stratum		Plot size: <u>r=30'</u>	Absolute % Cover	Dominant Species?	Indicator Status
1					
2					
3					
4					
5					
6					
7					
			0	= Total Cover	

Sapling stratum		Plot size: <u>r=15'</u>	Absolute % Cover	Dominant Species?	Indicator Status
1					
2					
3					
4					
5					
6					
7					
			0	= Total Cover	

Shrub stratum		Plot size: <u>r=15'</u>	Absolute % Cover	Dominant Species?	Indicator Status
1					
2					
3					
4					
5					
6					
7					
			0	= Total Cover	

Herb stratum		Plot size: <u>r=5'</u>	Absolute % Cover	Dominant Species?	Indicator Status
1	<i>Arthraxon hispidus</i>		68	Y	FAC
2	<i>Scirpus cyperinus</i>		10	N	FACW
3	<i>Euthamia graminifolia</i>		7	N	FAC
4	<i>Sambucus nigra</i>		5	N	FAC
5	<i>Dichanthelium clandestinum</i>		5	N	FAC
6	<i>Juncus effusus</i>		3	N	FACW
7	<i>Mimulus ringens</i>		2	N	OBL
8					
9					
10					
11					
12					
			100	= Total Cover	

Woody vine stratum		Plot size: <u>r=30'</u>	Absolute % Cover	Dominant Species?	Indicator Status
1					
2					
3					
4					
5					
			0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across all Strata:	1	(B)
Percent of Dominant Species that are OBL, FACW, or FAC:	100.00%	(A/B)

Prevalence Index Worksheet:

Total % Cover of:

OBL species	2	x 1 =	2
FACW species	13	x 2 =	26
FAC species	85	x 3 =	255
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	100	(A)	283 (B)
Prevalence Index = B/A =			2.83

Hydrophytic Vegetation Indicators:

- 1 – Rapid Test for Hydrophytic Vegetation
- X 2 – Dominance Test is >50%
- X 3 – Prevalence Index is $\leq 3.0^1$
- 4 – Morphological Adaptations¹ (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation¹ (explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**Definitions of Five Vegetation Strata:**

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Y

Remarks: (Include photo numbers here or on a separate sheet)

Hydrophytic vegetation was dominant at the data point.

[illegible]²Location: PL = Pore Lining, M = Matrix

Histisol (A1)	Dark Surface (S7)
Histic Epipedon (A2)	Polyvalue Below Surface (S8) (MLRA 147, 148)
Black Histic (A3)	Thin Dark Surface (S9) (MLRA 147, 148)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)
Stratified Layers (A5)	Depleted Matrix (F3)
2 cm Muck (A10) (LRR N)	Redox Dark Surface (F6)
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)
Thick Dark Surface (A12)	Redox Depressions (F8)
Sandy Mucky Mineral (S1)	Iron-Manganese Masses (F12)
(LRR N, MLRA 147, 148)	(LRR N, MLRA 136)
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 122)
Sandy Redox (S5)	Piedmont Floodplain Soils (F19) (MLRA 148)
Stripped Matrix (S6)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Type: _____
Depth (inches): _____

Hydric Soil Present? Y

Manganese present in depth 5-18" The Red Parent Material indicator was observed at the data point.

PHOTOGRAPHS

Sampling Point:

DP-3



Photograph 1. DP-3 Soil



Photograph 2. DP-3 Vicinity

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont

Project/Site: Cannon Branch to Winters Branch	City/County: Prince William County	Sampling Date: 8-Dec-2020
Applicant/Owner: Dominion Energy	State: Virginia	Sampling Point: DP-4
Investigator(s): S. Vonada	Section, Township, Range: N/A	
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, convex, none): None	Slope (%): 2-7%
Subregion (LRR or MLRA): MLRA 136 S	Lat: 38.739727	Long: -77.507663
Soil Map Unit Name: 35B Manassas Silt Loam	Datum: NAD 83	
Soil Map Unit Name: 35B Manassas Silt Loam		NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? <u>Y</u> (If no, explain in remarks)		
Are vegetation <u>X</u> , soil <u>X</u> , or hydrology <u>X</u> significantly disturbed? Are "normal circumstances" present? <u>No</u>		
Are vegetation <u> </u> , soil <u> </u> , or hydrology <u> </u> naturally problematic? (If needed, explain any answers in remarks)		

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report)

Data Point 4 is located within a managed utility easement. As such, the conditions have been disturbed. The data point is slightly uphill of Data Point 3 and displays upland characteristics.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

☐ Surface Water (A1)	☐ True Aquatic Plants (B14)
☒ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)
☒ Saturation (A3)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)
☐ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)
☐ Iron Deposits (B5)	
☐ Inundation Visible on Aerial Imagery (B7)	
☐ Water-Stained Leaves (B9)	
☐ Aquatic Fauna (B13)	

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Drainage Patterns (B10)
☐ Moss Trim Lines (B16)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ Microtopographic Relief (D4)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes ☐	No ☒	Depth (inches): <u>N/A</u>
Water table present?	Yes ☒	No ☐	Depth (inches): <u>10"</u>
Saturation present?	Yes ☒	No ☐	Depth (inches): <u>0"</u>

(includes capillary fringe)

Wetland Hydrology Present?Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A high water table and saturated soils were observed at the data point.

VEGETATION (Five Strata) – Use scientific names of plants.

Tree Stratum		Absolute % Cover	Dominant Species?	Indicator Status
(Plot size: r=30')				
1				
2				
3				
4				
5				
6				
7				
		0 = Total Cover		
Sapling stratum				
(Plot size: r=15')				
1				
2				
3				
4				
5				
6				
7				
		0 = Total Cover		
Shrub stratum				
(Plot size: r=15')				
1				
2				
3				
4				
5				
6				
7				
		0 = Total Cover		
Herb stratum				
(Plot size: r=5')				
1	<i>Arthraxon hispidus</i>	55	Y	FAC
2	<i>Solidago altissima</i>	15	N	FACU
3	<i>Rubus argutus</i>	10	N	FACU
4	<i>Mimulus ringens</i>	5	N	OBL
5	<i>Juncus effusus</i>	5	N	FACW
6	<i>Pycnanthemum virginianum</i>	5	N	FAC
7	<i>Lonicera japonica</i>	3	N	FACU
8	<i>Agrimonia gryposepala</i>	2	N	FACU
9				
10				
11				
12				
		100 = Total Cover		
Woody vine stratum				
(Plot size: r=30')				
1				
2				
3				
4				
5				
		0 = Total Cover		

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across all Strata:	1	(B)
Percent of Dominant Species that are OBL, FACW, or FAC:	100.00%	(A/B)

Prevalence Index Worksheet:

Total % Cover of:

OBL species	5	x 1 =	5
FACW species	5	x 2 =	10
FAC species	60	x 3 =	180
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column totals	100	(A)	315 (B)
Prevalence Index = B/A =			3.15

Hydrophytic Vegetation Indicators:

- 1 – Rapid Test for Hydrophytic Vegetation
- X 2 – Dominance Test is >50%
- 3 – Prevalence Index is $\leq 3.0^1$
- 4 – Morphological Adaptations¹ (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation¹ (explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Y

Remarks: (Include photo numbers here or on a separate sheet)

Hydrophytic vegetation was observed at the data point.

[illegible]²Location: PL = Pore Lining, M = Matrix

Indicators for Problematic Hydric Soils³:

☐ 2cm Muck (A10) **(MLRA 147)**
☐ Coast Prairie Redox (A16)
☐ **(MLRA 147, 148)**
☐ Piedmont Floodplain Soils (F19)
☐ **(MLRA 136, 147)**
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Type: _____
Depth (inches): _____

Hydric Soil Present? N

No hydric soil indicators were observed.

PHOTOGRAPHS

Sampling Point:

DP-4



Photograph 1. DP-4 Soil



Photograph 2. DP-4 Vicinity

Attachment C
Waters of the U.S. Delineation Map

0200400600

1 INCH = 200 FEET

WETLAND FLAG

UPLAND DATA POINT

WETLAND DATA POINT

APPROXIMATE PROJECT LIMITS

PALUSTRINE EMERGENT (PEM) WETLAND LIMITS

PEM-S1

SHEET 02

SHEET 01

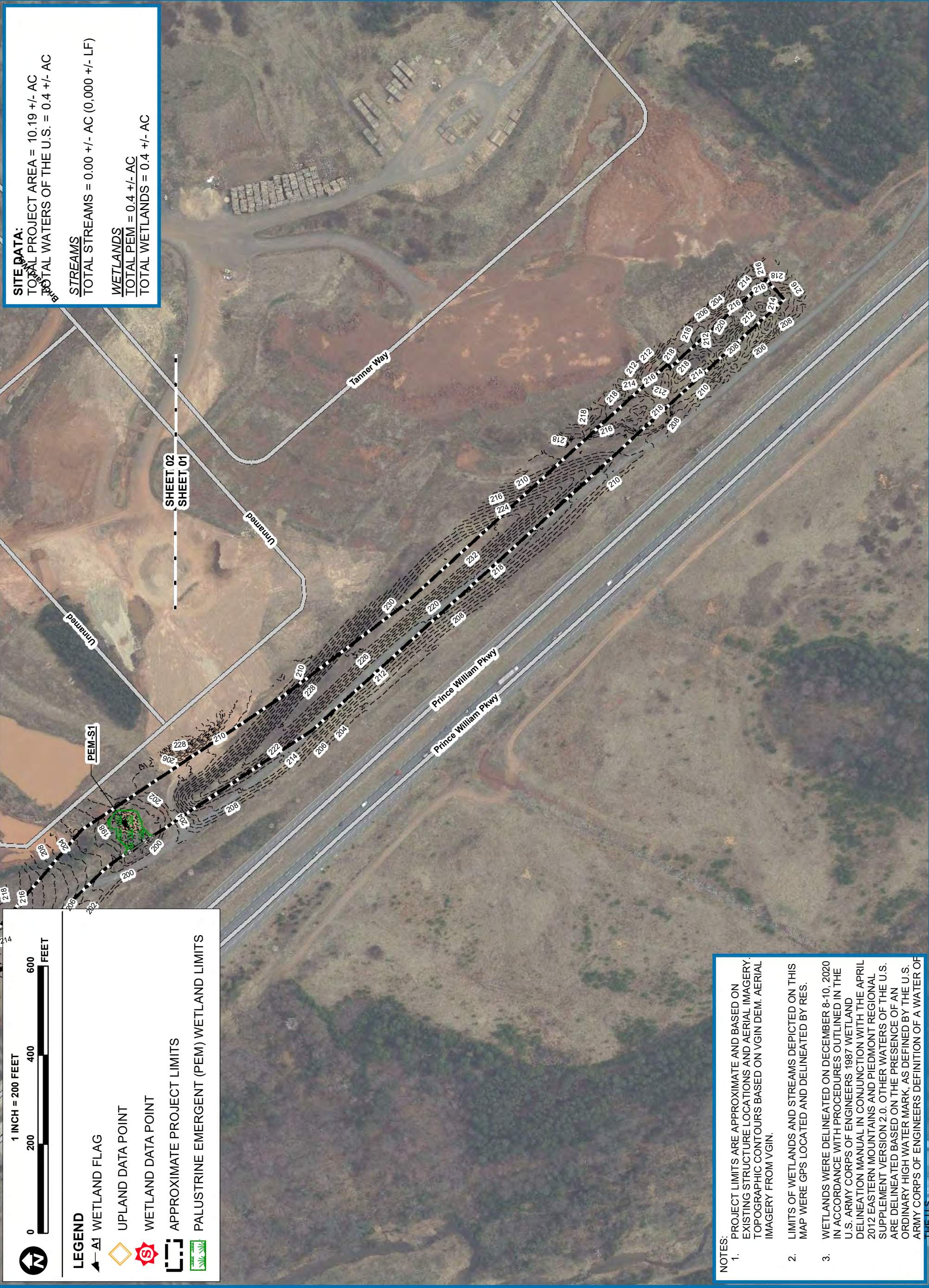
0200400600

1 INCH = 200 FEET

SITE DATA:
TOTAL PROJECT AREA = 10.19 +/- AC
TOTAL WATERS OF THE U.S. = 0.4 +/- AC

STREAMS
TOTAL STREAMS = 0.00 +/- AC (0,000 +/- LF)

WETLANDS
TOTAL PEM = 0.4 +/- AC
TOTAL WETLANDS = 0.4 +/- AC



- NOTES:
1. PROJECT LIMITS ARE APPROXIMATE AND BASED ON EXISTING STRUCTURE LOCATIONS AND AERIAL IMAGERY. TOPOGRAPHIC CONTOURS BASED ON VGIN DEM. AERIAL IMAGERY FROM VGIN.
 2. LIMITS OF WETLANDS AND STREAMS DEPICTED ON THIS MAP WERE GPS LOCATED AND DELINEATED BY RES.
 3. WETLANDS WERE DELINEATED ON DECEMBER 8-10, 2020 IN ACCORDANCE WITH PROCEDURES OUTLINED IN THE U.S. ARMY CORPS OF ENGINEERS' 1987 WETLAND DELINEATION MANUAL IN CONJUNCTION WITH THE APRIL 2012 EASTERN MOUNTAINS AND PIEDMONT REGIONAL SUPPLEMENT VERSION 2.0. OTHER WATERS OF THE U.S. ARE DELINEATED BASED ON THE PRESENCE OF AN ORDINARY HIGH WATER MARK, AS DEFINED BY THE U.S. ARMY CORPS OF ENGINEERS' DEFINITION OF A WATER OF THE U.S.

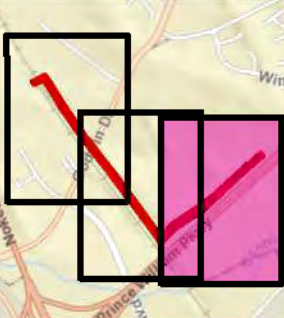
ATTACHMENT 2.D.1
Page 36 of 60

www.res.us

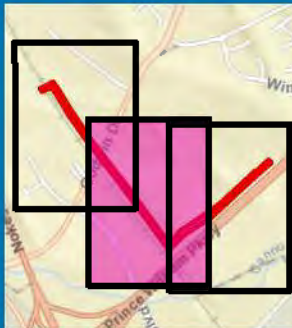
P: 713.620.5400

CORPORATE | 6575 WEST LOOP SOUTH, SUITE 300, BELLAIRE, TX 77401

CANNON BRANCH TO
WATERS OF THE U.S.
DELINEATION MAP
CITY OF MANASSAS AND
PRINCE WILLIAM COUNTY, VIRGINIA



PROJECT MANAGER:	KA
DRAWN:	TB
JOB NUMBER:	103180
DATE:	01/06/2021
REVISIONS:	TB - 05/13/2021



PROJECT MANAGER:	KA
DRAWN:	TB
JOB NUMBER:	103180
DATE:	01/06/2020
REVISIONS:	TB - 05/13/2021

SITE DATA:
TOTAL PROJECT AREA = 10.19 +/- AC
TOTAL WATERS OF THE U.S. = 0.4 +/- AC

STREAMS
TOTAL STREAMS = 0.00 +/- AC (0,000 +/- LF)

WETLANDS
TOTAL PEM = 0.4 +/- AC
TOTAL WETLANDS = 0.4 +/- AC



NOTES:

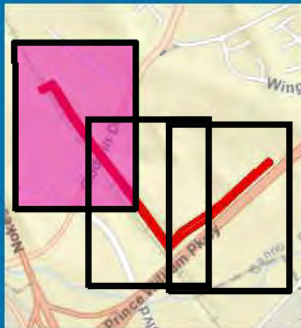
1. PROJECT LIMITS ARE APPROXIMATE AND BASED ON EXISTING STRUCTURE LOCATIONS AND AERIAL IMAGERY. TOPOGRAPHIC CONTOURS BASED ON VGIN DEM. AERIAL IMAGERY FROM VGIN.
2. LIMITS OF WETLANDS AND STREAMS DEPICTED ON THIS MAP WERE GPS LOCATED AND DELINEATED BY RES.
3. WETLANDS WERE DELINEATED ON DECEMBER 8-10, 2020 IN ACCORDANCE WITH PROCEDURES OUTLINED IN THE U.S. ARMY CORPS OF ENGINEERS' 1987 WETLAND DELINEATION MANUAL IN CONJUNCTION WITH THE APRIL 2012 EASTERN MOUNTAINS AND PIEDMONT REGIONAL SUPPLEMENT VERSION 2.0. OTHER WATERS OF THE U.S. ARE DELINEATED BASED ON THE PRESENCE OF AN ORDINARY HIGH WATER MARK, AS DEFINED BY THE U.S. ARMY CORPS OF ENGINEERS' DEFINITION OF A WATER OF THE U.S.



P: 713.520.5400

CORPORATE | 6575 WEST LOOP SOUTH, SUITE 300, BELLAIRE, TX 77401

CANNON BRANCH TO
WINTERS BRANCH
WATERS OF THE U.S.
DELINEATION MAP
CITY OF MANASSAS AND
PRINCE WILLIAM COUNTY, VIRGINIA

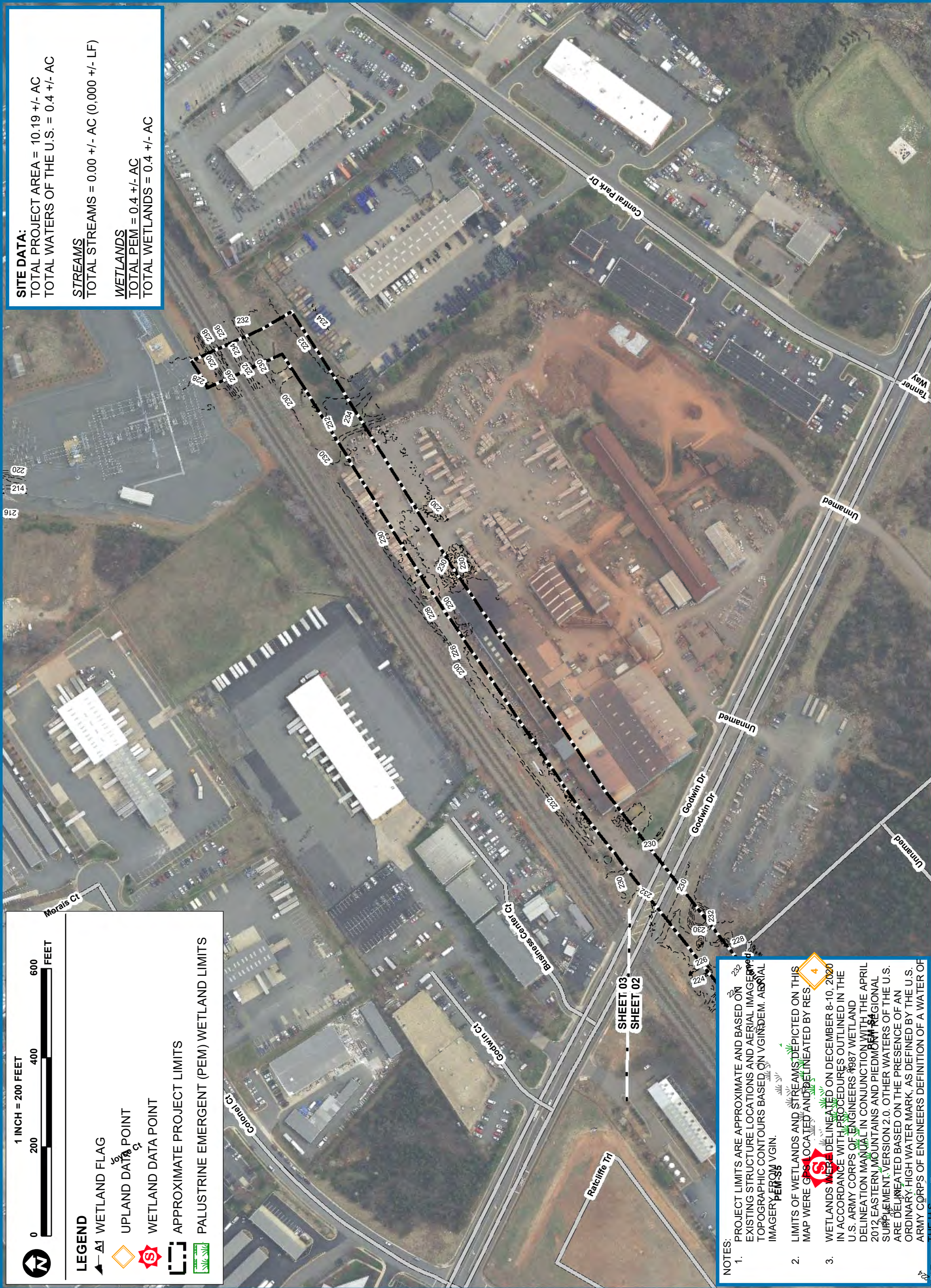


DRAWN:

JOB NUMBER:

DATE:

REVISIONS:



SITE DATA:

TOTAL PROJECT AREA = 10.19 +/- AC
TOTAL WATERS OF THE U.S. = 0.4 +/- AC

TOTAL WATERS OF THE U.S. = 0.4 +/- AC

STREAMS

TOTAL STREAMS = 0.00 +/- AC (0,000 +/- LF)

WETLANDS

TOTAL PEM = 0.4 +/- AC

TOTAL WETLANDS = 0.4 +/- AC

1 INCH = 200 FEET

LEGEND

▲— A1 WETLAND FLAG

H
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 C
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WETI AND DATA POINT

APPROXIMATE PROJECT LIMITS

PAULISTINE EMERGENT (PEM) WETI AND LIMITS

NOTES:

1. PROJECT LIMITS ARE APPROXIMATE AND BASED ON EXISTING STRUCTURE LOCATIONS AND AERIAL IMAGERY. TOPOGRAPHIC CONTOURS BASED ON VGIN DEM. AERIAL IMAGERY FROM VGIN.

2. LIMITS OF WETLANDS AND STREAMS DEPICTED ON THIS MAP WERE GPS LOCATED AND REINTERVIEWED BY RES

3. WETLANDS WERE DELINEATED ON DECEMBER 8-10, 2020 IN ACCORDANCE WITH PROCEDURES OUTLINED IN THE U.S. ARMY CORPS OF ENGINEERS #987 WETLAND DELINEATION MANUAL IN CONJUNCTION WITH THE APRIL 2012 EASTERN MOUNTAINS AND PIEDMONT REGIONAL SUPPLEMENT, VERSION 2.0. OTHER WATERS OF THE U.S. ARE DELINEATED BASED ON THE PRESENCE OF AN ORDINARY HIGH WATER MARK, AS DEFINED BY THE U.S. ARMY CORPS OF ENGINEERS DEFINITION OF A WATER OF

Attachment D
NRCS Soils Report



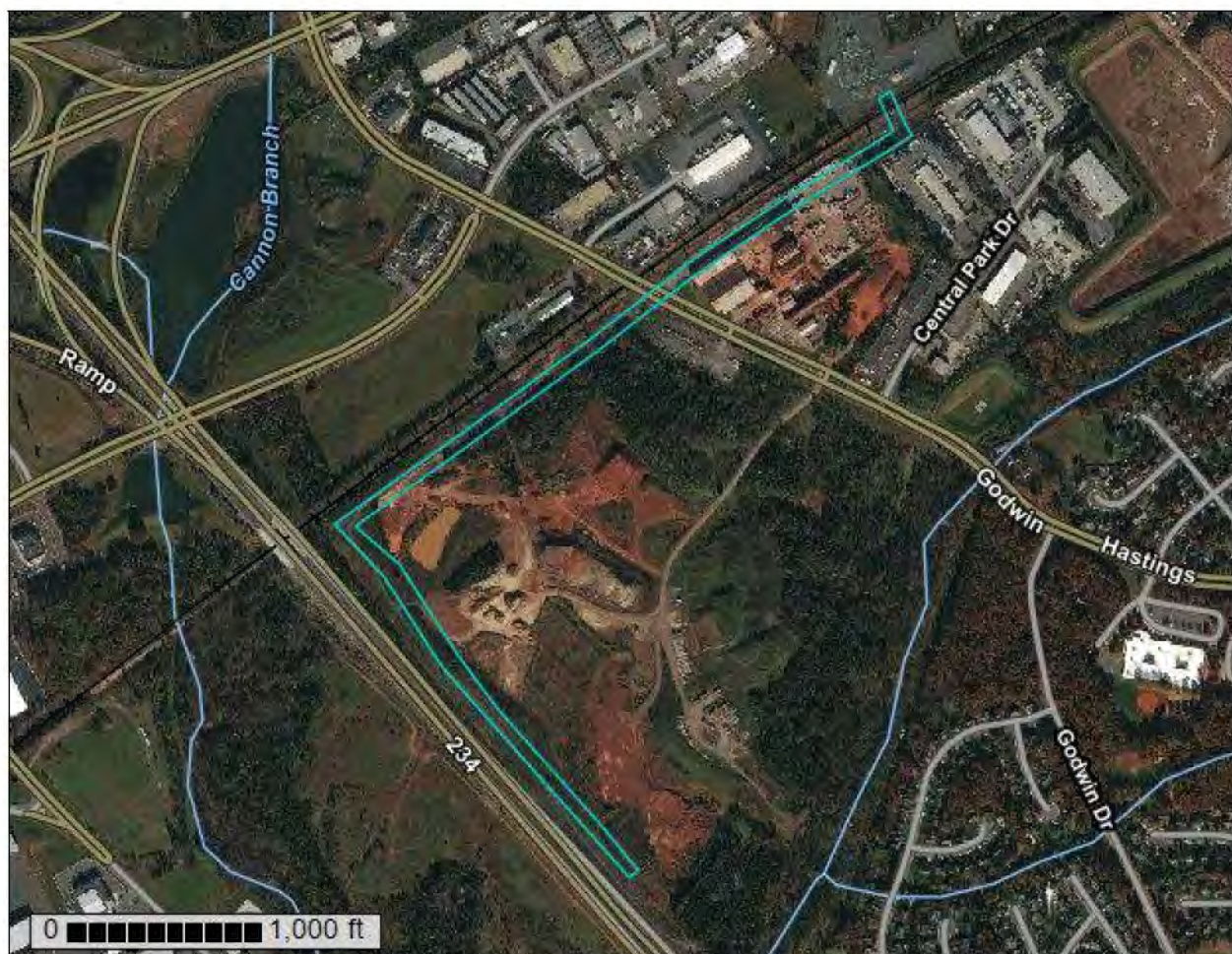
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Prince William County, Virginia



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map

Attachment 2.D.1
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MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Soil Map Unit Lines

Special Line Features

Streams and Canals

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

Soil Survey Area: Prince William County, Virginia
Survey Area Data: Version 17, Jun 5, 2020

Date(s) aerial images were photographed: Sep 25, 2014—Mar 10, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
4B	Arcola silt loam, 2 to 7 percent slopes	1.0	9.7%
5C	Arcola-Nestoria complex, 7 to 15 percent slopes	1.2	11.6%
35B	Manassas silt loam, 2 to 7 percent slopes	3.7	36.4%
46B	Panorama silt loam, 2 to 7 percent slopes	0.3	3.3%
46C	Panorama silt loam, 7 to 15 percent slopes	2.1	20.2%
54B	Urban land-Udorthents complex, 0 to 7 percent slopes	1.9	18.9%
Totals for Area of Interest		10.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not

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mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

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Prince William County, Virginia

4B—Arcola silt loam, 2 to 7 percent slopes

Map Unit Setting

National map unit symbol: khcb
Elevation: 300 to 800 feet
Mean annual precipitation: 19 to 50 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 168 to 211 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Arcola and similar soils: 80 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arcola

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 22 inches: gravelly silt loam
H3 - 22 to 28 inches: very gravelly silt loam
H4 - 28 to 48 inches: bedrock
H5 - 48 to 58 inches: bedrock

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock; 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Albano

Percent of map unit: 5 percent

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Landform: Depressions
Landform position (three-dimensional): Head slope
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

5C—Arcola-Nestoria complex, 7 to 15 percent slopes

Map Unit Setting

National map unit symbol: khcr
Elevation: 150 to 800 feet
Mean annual precipitation: 19 to 50 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 168 to 211 days
Farmland classification: Not prime farmland

Map Unit Composition

Arcola and similar soils: 50 percent
Nestoria and similar soils: 30 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arcola

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 22 inches: gravelly silt loam
H3 - 22 to 28 inches: very gravelly silt loam
H4 - 28 to 48 inches: bedrock
H5 - 48 to 58 inches: bedrock

Properties and qualities

Slope: 7 to 15 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock; 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.8 inches)

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Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Hydric soil rating: No

Description of Nestoria

Setting

Landform: Hillslopes

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Triassic residuum

Typical profile

H1 - 0 to 8 inches: channery silt loam

H2 - 8 to 14 inches: very channery silt loam

H3 - 14 to 18 inches: very channery silt loam

H4 - 18 to 30 inches: bedrock

H5 - 30 to 34 inches: bedrock

Properties and qualities

Slope: 7 to 15 percent

Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: D

Hydric soil rating: No

Minor Components

Albano

Percent of map unit: 5 percent

Landform: Depressions

Landform position (three-dimensional): Head slope

Down-slope shape: Linear

Across-slope shape: Concave

Hydric soil rating: Yes

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35B—Manassas silt loam, 2 to 7 percent slopes

Map Unit Setting

National map unit symbol: khbj
Elevation: 400 to 800 feet
Mean annual precipitation: 19 to 50 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 168 to 211 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Manassas and similar soils: 85 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Manassas

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 43 inches: silt loam
H3 - 43 to 49 inches: channery sandy loam
H4 - 49 to 60 inches: bedrock

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 24 to 36 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water capacity: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Hydric soil rating: No

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Minor Components

Albano

Percent of map unit: 3 percent
Landform: Depressions
Landform position (three-dimensional): Head slope
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

46B—Panorama silt loam, 2 to 7 percent slopes

Map Unit Setting

National map unit symbol: khc3
Elevation: 150 to 800 feet
Mean annual precipitation: 19 to 50 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 168 to 211 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Panorama and similar soils: 75 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Panorama

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 19 inches: silty clay loam
H3 - 19 to 38 inches: silty clay loam
H4 - 38 to 55 inches: very channery silty clay loam
H5 - 55 to 59 inches: bedrock

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches

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Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 7.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Albano

Percent of map unit: 5 percent
Landform: Depressions
Landform position (three-dimensional): Head slope
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

46C—Panorama silt loam, 7 to 15 percent slopes

Map Unit Setting

National map unit symbol: khc4
Elevation: 150 to 800 feet
Mean annual precipitation: 19 to 50 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 168 to 211 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Panorama and similar soils: 75 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Panorama

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 19 inches: silty clay loam
H3 - 19 to 38 inches: silty clay loam
H4 - 38 to 55 inches: very channery silty clay loam
H5 - 55 to 59 inches: bedrock

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Properties and qualities

Slope: 7 to 15 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 7.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Albano

Percent of map unit: 5 percent
Landform: Depressions
Landform position (three-dimensional): Head slope
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

54B—Urban land-Udorthents complex, 0 to 7 percent slopes

Map Unit Setting

National map unit symbol: khcm
Mean annual precipitation: 19 to 50 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 168 to 211 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 50 percent
Udorthents: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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Rachel M Studebaker (Services - 6)

From: Holland, Benjamin <benjamin.holland@deq.virginia.gov>
Sent: Monday, November 22, 2021 10:35 AM
To: Rachel M Studebaker (Services - 6)
Cc: rr Environmental Impact Review; Miller, Mark
Subject: [EXTERNAL] DEQ NRO response to scoping request - Dominion Energy Virginia's Line # 2011 Extension from Cannon Branch to Winters Branch Project, City of Manassas and Prince William County

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DEQ Northern Regional Office comments regarding the scoping request for *Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project, City of Manassas and Prince William County, Virginia*, are as follows:

Land Protection Division – The project manager is reminded that if any solid or hazardous waste is generated/encountered during construction, the project manager would follow applicable federal, state, and local regulations for their disposal.

Air Compliance/Permitting - The project manager is reminded that during the construction phases that occur with this project; the project is subject to the Fugitive Dust/Fugitive Emissions Rule 9 VAC 5-50-60 through 9 VAC 5-50-120. In addition, should any open burning or use of special incineration devices be employed in the disposal of land clearing debris during demolition and construction, the operation would be subject to the Open Burning Regulation 9 VAC 5-130-10 through 9 VAC 5-130-60 and 9 VAC 5-130-100.

Virginia Water Protection Permit (VWPP) Program – The project manager is reminded that a VWP permit from DEQ may be required should impacts to surface waters be necessary. Measures should be taken to avoid and minimize impacts to surface waters and wetlands during construction activities. The disturbance of surface waters or wetlands may require prior approval by DEQ and/or the U.S. Army Corps of Engineers. The Army Corps of Engineers is the authority for an official confirmation of whether there are federal jurisdictional waters, including wetlands, which may be impacted by the proposed project. DEQ may confirm additional waters as jurisdictional beyond those under federal authority. Review of National Wetland Inventory maps or topographic maps for locating wetlands or streams may not be sufficient; there may need to be a site-specific review of the site by a qualified professional. Even if there will be no intentional placement of fill material in jurisdictional waters, potential water quality impacts resulting from construction site surface runoff must be minimized. This can be achieved by using Best Management Practices (BMPs). If construction activities will occur in or along any streams (perennial, intermittent, or ephemeral), open water or wetlands, the applicant should contact DEQ-NRO VWPP staff to determine the need for any permits prior to commencing work that could impact surface waters or wetlands. Upon receipt of a Joint Permit Application for the proposed surface water impacts, DEQ VWP Permit staff will review the proposed project in accordance with the VWP permit program regulations and current VWP permit program guidance. VWPP staff reserve the right to provide comment upon receipt of a permit application requesting authorization to impact state surface waters, and at such time that a wetland delineation has been conducted and associated jurisdiction determination made by the U.S. Army Corps of Engineers.

Erosion and Sediment Control, Storm Water Management – DEQ has regulatory authority for the Virginia Pollutant Discharge Elimination System (VPDES) programs related to municipal separate storm sewer systems (MS4s) and

construction activities. Erosion and sediment control measures are addressed in local ordinances and State regulations. Additional information is available at <http://www.deq.virginia.gov/Programs/Water/StormwaterManagement.aspx>. Non-point source pollution resulting from this project should be minimized by using effective erosion and sediment control practices and structures. Consideration should also be given to using permeable paving for parking areas and walkways where appropriate, and denuded areas should be promptly revegetated following construction work. If the total land disturbance exceeds 10,000 square feet, an erosion and sediment control plan will be required. Some localities also require an E&S plan for disturbances less than 10,000 square feet. A stormwater management plan may also be required. For any land disturbing activities equal to one acre or more, you are required to apply for coverage under the VPDES General Permit for Discharges of Storm Water from Construction Activities. The Virginia Stormwater Management Permit Authority may be DEQ or the locality.

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October 28, 2021

Ms. Rachel Studebaker
Dominion Energy Virginia
120 Tredegar St.
Richmond, VA 23219

**Re: Solid and Hazardous Waste Search
Line # 2011 Extension from Cannon Branch to Winters Branch
Prince William County and City of Manassas, Virginia**

Dear Ms. Studebaker:

RES conducted a database review for federal and state solid and hazardous wastes and petroleum release sites within a 0.5-mile radius of the proposed Line # 2011 Extension from Cannon Branch to Winters Branch Project (the Project) located in the City of Manassas and Prince William County, Virginia. The Project consists of the following components:

- i. The removal of an approximate 0.06-mile segment of the existing 230 kV Line #2011 termination between Cannon Branch Substation and Structure #2011/68; and
- ii. The construction of a new approximately 1.05-mile segment of 230 kV Line #2011 starting south of Cannon Branch Substation and terminating at Winters Branch Substation in a newly acquired, variable width right-of-way expansion, ranging in width from 50 to 120 feet, parallel and to the south and east of the existing variable width right-of-way containing 230 kV Lines #2195 and #2148.

The purpose of this review was to document the locations of federal and state solid and hazardous wastes and petroleum release sites within a 0.5-mile radius of the proposed project area. RES consulted publicly available data from the Environmental Protection Agency (EPA) and the Virginia Department of Environmental Quality (DEQ).

EPA Facility Registry Service

RES reviewed data from the EPA Facility Registry Service (FRS) for Prince William County and the City of Manassas, Virginia. The FRS dataset provides information about facilities, sites, or places subject to environmental regulation or of environmental interest and contains all sites subject to environmental regulation by the EPA or other state authorities, including sites that fall under air emissions or wastewater programs. The results reported herein specifically include those sites which fall under the EPA's hazardous waste, solid waste, remediation, and underground storage tank programs, such as the following site categories: *Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)/Superfund Enterprise Management System (SEMS)*; *Resource Conservation and Recovery Act (RCRA)*; and *Brownfield Sites*.

Per this review, no registered Brownfield Sites or CERCLA/SEMS sites were identified within a 0.5-mile radius of the project area.



According to the EPA FRS database, nine (9) RCRA sites are located within a 0.5-mile radius of the project area, as detailed in Table 1 below. Of the nine RCRA sites identified within the search area, seven (7) are located over 500 feet from the project area. These seven sites are located outside of the right-of-way for the proposed project and due to distance, do not appear to warrant further concern relating to the proposed project. The remaining two (2) RCRA sites are located within 500 feet of the project area, with one (1) located directly adjacent to the existing right-of-way. These two sites are discussed in further detail below. See Figure 2.E.1 (Attachment A) for a map of facility locations: see Table 1 provided in Attachment B for a listing of FRS facility record information.

The project area is located within approximately 160 feet of the FedEx Freight Inc. (EPA Registry ID: 110006455031) facility, which is classified as an active very small quantity generator. The facility has no records of RCRA violations in the FRS Enforcement and Compliance Database. Due to the distance and regulatory status (no violations found) of the facility, it does not appear to warrant further concern relating to the proposed project.

The proposed right-of-way expansion for the new approximate 1.05-mile extension of Line #2011 intersects the Glen Gery Corporation Capitol Plant (EPA Registry ID: 110001887815), which is located directly east of the intersection of Godwin Drive and the Manassas Line railroad in the City of Manassas. Construction of the new extension of Line #2011 will require the demolition of a building on the site, which is currently utilized by Glen Gery Corporation as a brick and structural clay tile manufacturing plant. According to the site-specific *FRS Facility Detail Report*, the plant is classified as an active very small quantity generator under the RCRA and is also registered under the Toxic Release Inventory (TRI) and Integrated Compliance System for Air for operation under a Clean Air Act (CAA) Synthetic Minor Emissions permit. The facility has no records of RCRA or CAA violations in the FRS Enforcement and Compliance Database, and the TRI report for the facility shows that no toxic releases have occurred since 2004. Previous toxic releases consisted solely of air emissions of hydrogen fluoride that occurred between 1997 and 2004. No surface water discharges, releases to land, or injection to groundwater have been reported at the facility. RES understands that Dominion Energy will work with the owner of the facility, as necessary, to resolve any potential environmental or hazardous waste concerns related with the demolition of the plant. However, due to the regulatory status of the facility (no violations or recent toxic releases found) and the nature of the previous releases (air emissions), the facility is not anticipated to present an environmental concern for the Project. The *Detailed Facility Report* and TRI site record for the Glen Gery Corporation Capitol Plant facility are provided in Attachment C for reference.

Virginia DEQ Environmental Geographic Information Systems

RES also reviewed data from the Virginia DEQ Virginia Environmental Geographic Information Systems (VEGIS) viewer. VEGIS provides mapped locations of Voluntary Remediation Program (VRP) sites, Permitted Solid Waste Facilities, and petroleum release sites. No VRP sites or Permitted Solid Waste Facilities were identified within a 0.5-mile radius of the Project.

VEGIS returned eight (8) Petroleum Releases within a 0.5-mile radius of the Project. All of the identified release site cases have been closed. Of the eight Petroleum Releases identified within the study area, six (6) are located over 500 feet from the project area. These six sites are located outside of the right-of-way for the proposed project and due to distance and release site status, do not appear to warrant further concern relating to the proposed project. The remaining two (2) petroleum release sites are located within 500 feet of the project area, with one (1) located directly adjacent to the existing right-of-way. These two sites are discussed in further detail below. See



Figure 2.E.1 (Attachment A) for a map of site locations; see Table 2 provided in Attachment B for a listing of petroleum release site record information.

A petroleum release associated with the aforementioned Glen Gery Corporation Capitol Plant facility (PC No. 19900734) is located within the boundaries of the proposed right-of-way expansion for the new approximate 1.05-mile segment of Line #2011. According to the site record, the petroleum release was reported on December 13, 1989, and closed on February 27, 1991, indicating a lack of significant soil and/or groundwater contamination. RES understands that Dominion Energy has a procedure in place to handle petroleum contaminated soil, if encountered. However, based on the regulatory status of the site (closed), short duration the release was open, and time elapsed (30 years) since the case was closed allowing any remaining contamination to naturally attenuate, the release does not appear to warrant further concern relating to the Project.

The project area is located within approximately 180 feet of a petroleum release site associated with the Manassas City Power Plant (PC No. 19954178). According to the site record, the petroleum release was reported on January 24, 1995, and closed on June 20, 1995, indicating a lack of significant soil and/or groundwater contamination. Based on the regulatory status of the site (closed), short duration the release was open, and time elapsed (25 years) since the case was closed allowing any remaining contamination to naturally attenuate, the vicinity release does not appear to warrant further concern relating to the Project.

If you have any questions regarding the information presented in this report, please feel free to contact me.

Best Regards,

A handwritten signature in black ink, appearing to read 'C. Zehrer'.

Colin Zehrer
Regulatory Specialist
(804) 350-6411
czehrer@res.us

Attachments: Attachment A – Figure 2.E.1 – Solid and Hazardous Waste Sites Within 0.5 Miles
Attachment B – Tables
Attachment C – Glen Gery Corporation Capitol Plant Detailed Facility Report and TRI Site Record

ATTACHMENT A

FIGURE 2.E.1 – SOLID AND HAZARDOUS WASTE SITES WITHIN 0.5 MILES

0

1,000

2,000

3,000

FEET

LEGEND

EXISTING SUBSTATION

FUTURE SUBSTATION

RCRA SITE

PETROLEUM RELEASE SITE - CLOSED

PETROLEUM RELEASE SITE - OPEN

EXISTING 115 KV LINE

EXISTING 230 KV LINE

PROJECT BUFFER (HALF MILE)

APPROXIMATE PROJECT LIMITS

PROPOSED 230 KV LINE 2011 EXTENSION

REMOVE EXISTING 230 KV LINE 2011

The map displays a proposed power line extension project. Key features include:

- Substations:** Cannon Branch Substation, Winters Branch Substation, and Future Brickyard Substation.
- Existing Infrastructure:** Existing lines at 115 KV and 230 KV, and existing lines 197 (115 KV) & 2148 (230 KV).
- Proposed Infrastructure:** Proposed 230 KV line 2011 extension and removal of existing 230 KV line 2011.
- Project Limits:** Approximate project limits shown as a dashed line.
- Geographic Context:** The map is bounded by Prince William County and the City of Manassas.

Attachment 2.E.1
Page 5 of 17

CORPORATE | 6575 WEST LOOP SOUTH, SUITE 300, BELLAIRE, TX 77401

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TL #2011 EXTENSION FROM
CANNON BRANCH TO WINTERS BRANCH
APPLICANT: DOMINION ENERGY
SOLID AND HAZARDOUS WASTE SITES
WITHIN 0.5 MILES MAP
II.E.1.
CITY OF MANASSAS AND PRINCE WILLIAM COUNTY,
VIRGINIA

PROJECT MANAGER:	KB
DRAWN:	LC
JOB NUMBER:	103811
DATE EXPORTED:	10/12/2021
REVISIONS:	

Attachment 2.E.1
Page 5 of 17

Document Path: R:\Res\entg\Projects\103811_TL_2011_CannonBranch_Clinton\MXD\SCA\103811_TL_2011_Hazardous_Waste_11x17.mxd Date Saved: 10/12/2021

ATTACHMENT B
TABLES

Table 1 – Hazardous waste sites identified by the EPA FRS as occurring within 0.5-mile of the Project

Site Name	EPA Registry ID	Interest Type	Status	Address	Latitude	Longitude	Proximity Project Area (feet)
Glen Gery Corporation – Capitol Plant	110001887815	RCRA – Unspecified Universe; TRI; ICIS AIR – SME	Active	9905 Godwin Dr Manassas, VA 20110	38.7397	-77.50458	Right-of-way intersects site
Fedex Freight, Inc.	110006455031	RCRA – VSQG	Active	9825 Godwin Ct Manassas, VA 20110	38.74108	-77.50806	160
Moses Lake Industries, Inc.	110012195007	RCRA – Unspecified Universe	Inactive	10198 Dean Dr Manassas, VA 20110	38.74777	-77.50251	750
Lake Lithograph Co.	110005291022	RCRA – Unspecified Universe	Inactive	10371 Central Park Dr Manassas, VA 20110	38.74163	-77.5001	950
Tosoh Advanced Parts Cleaning, Inc.	110031317992	RCRA – Unspecified Universe	Inactive	10478 Colonel Ct Manassas, VA 20110	38.742655	-77.508893	1,000
Amoco #60395-Tanks	110030467073	RCRA – Unspecified Universe	Inactive	10441 Nokesville Rd Manassas, VA 20110	38.74426	-77.51242	1,825
Tri State Tours	110008196816	RCRA – Unspecified Universe	Inactive	10680 Wakeman Ct Manassas, VA 20110	38.734528	-77.519539	2,300
Wilcox Woodworks	110006179189	RCRA - SQG	Active	10687 Wakeman Ct Manassas, VA 20110	38.734413	-77.519521	2,300
T Hangars of VA, Inc.	110005288027	RCRA - VSQG	Active	10527 Terminal Rd Manassas, VA 20110	38.726174	-77.511054	2,580

SQG: Small Quantity Generator
 VSQG: Very Small Quantity Generator
 TRI: Toxic Release Inventory
 ICIS AIR: Integrated Compliance Information System for Air
 SME: Synthetic Minor Emissions

Table 2 – Virginia DEQ Petroleum Release Sites identified through VEGIS within 0.5-mile of the Project

Site Name	PC Number	Address	Latitude	Longitude	Status	Type of Release	Proximity to Project Area (feet)
Glen Gery Co. – Manassas Quarry	19900734	9905 Godwin Dr Manassas, VA 20110	38.74124	-77.50522	Closed	Confirmed	right-of-way intersects site
Manassas City Power Plant	19954178	9898 Godwin Dr Manassas, VA 20110	38.74046	-77.50835	Closed	Confirmed	180
Dominion Peaking Plant	20003212	10304 Central Park Dr Manassas, VA 20110	38.74164	-77.49868	Closed	Confirmed	1,020
Godwin BP	20203134	10441 Nokesville Rd Manassas, VA 20110	38.74398	-77.51222	Closed	Confirmed	1980
UOSA Winters Branch Pump Station	19993343	9909 Godwin Dr Manassas, VA 22110	38.73930	-77.50127	Closed	Confirmed	900
VDOT – Stormwater Management Pond	20003157	SE corner intersection Route 28 and Godwin Prince William County, VA 20110	38.74166	-77.51242	Closed	Confirmed	1,300
Material Storage Yard	200000891 650	9911 Godwin Dr Manassas, VA 20110	38.743459	-77.495648	Closed	Confirmed	1,000
Manassas Airport – New Control Tower	20013062	10522 Terminal Rd Manassas, VA 22110	38.72770	-77.51384	Closed	Confirmed	2,556

ATTACHMENT C

GLEN GERY CORPORATION CAPITOL PLANT DETAILED FACILITY REPORT AND TRI SITE RECORD

Detailed Facility Report

Facility Summary

**GLEN GERY CORPORATION - CAPITOL
PLANT**
9905 GODWIN DRIVE, MANASSAS, VA 20110

FRS (Facility Registry Service) ID: 110001887815
EPA Region: 03
Latitude: 38.7397
Longitude: -77.50458
Locational Data Source: FRS
Industries: Data Processing, Hosting, and Related
Services
Indian Country: N

Enforcement and Compliance Summary

State	CAA
Insps (5 Years)	1
Date of Last Inspection	02/25/2019
Current Compliance Status	No Violations Identified
Qtrs with NC (of 12)	0
Qtrs with Significant Violation	0
Informal Enforcement Actions (5 years)	—
Formal Enforcement Actions (5 years)	—
Penalties from Formal Enforcement Actions (5 years)	—
EPA Cases (5 years)	—
Penalties from EPA Cases (5 years)	—
State	RCRA
Insps (5 Years)	—
Date of Last Inspection	—
Current Compliance Status	No Violations Identified
Qtrs with NC (of 12)	0
Qtrs with Significant Violation	0
Informal Enforcement Actions (5 years)	—
Formal Enforcement Actions (5 years)	—
Penalties from Formal Enforcement Actions (5 years)	—
EPA Cases (5 years)	—
Penalties from EPA Cases (5 years)	—

Regulatory Information

Clean Air Act (CAA): Operating Synthetic Minor (VA0000005168300003)

Clean Water Act (CWA): No Information

Resource Conservation and Recovery Act (RCRA): Active VSQG (VAD099406308)

Safe Drinking Water Act (SDWA): No Information

Other Regulatory Reports

Air Emissions Inventory (EIS): 4937011

Greenhouse Gas Emissions (eGGRT): No Information

Toxic Releases (TRI): 20110GLNGR9905G

Compliance and Emissions Data Reporting Interface (CEDRI): No Information

Known Data Problems

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110001887815					N	38.7397	-77.50458
ICIS		30776					N		
ICIS-Air	CAA	VA0000005168300003	Synthetic Minor Emissions	Operating	CAAFESOP, CAAMACT, CAASIP		N	38.73944	-77.50389
EIS	CAA	4937011					N	38.740696	-77.504422
TRI	EP313	20110GLNGR9905G	Toxics Release Inventory	Last Reported for 2004			N	38.73944	-77.50389
RCRAInfo	RCRA	VAD099406308	VSQG	Active (H)			N		

Facility Address

System	Statute	Identifier	Facility Name	Facility Address	Facility County
FRS		110001887815	GLEN GERY CORPORATION - CAPITOL PLANT	9905 GODWIN DRIVE, MANASSAS, VA 20110	Prince William County
ICIS		30776	GLEN GERY CORPORATION CAPITOL PLANT	9905 GODWIN DR., MANASSAS, VA 20110	Prince William County
ICIS-Air	CAA	VA0000005168300003	DIGITAL REALTY	9905 GODWIN DR, MANASSAS, VA 20110	Manassas city
EIS	CAA	4937011	GLEN-GERY CORPORATION - MANASSAS QUARRY	9905 GODWIN DR, MANASSAS, VA 20110	Manassas city
TRI	EP313	20110GLNGR9905G	GLEN-GERY CORP	9905 GODWIN DR, MANASSAS, VA 20108	Prince William County
RCRAInfo	RCRA	VAD099406308	GLEN GERY CORP	9905 GODWIN DR, MANASSAS, VA 22110	Manassas city

Facility SIC (Standard Industrial Classification) Codes

System	Identifier	SIC Code	SIC Description
TRI	20110GLNGR9905G	3251	Brick And Structural Clay Tile

Facility NAICS (North American Industry Classification System) Codes

System	Identifier	NAICS Code	NAICS Description
TRI	20110GLNGR9905G	327121	Brick And Structural Clay Tile Manufacturing
EIS	4937011	327120	Clay Building Material and Refractories Manufacturing
ICIS-Air	VA0000005168300003	327120	Clay Building Material and Refractories Manufacturing
ICIS-Air	VA0000005168300003	518210	Data Processing, Hosting, and Related Services

Reservation Name	Tribe Name	EPA Tribal ID	Distance to Tribe (miles)
No data records returned			

Enforcement and Compliance

Compliance Monitoring History (5 years)

Statute	Source ID	System	Activity Type	Compliance Monitoring Type	Lead Agency	Date	Finding (if applicable)
CAA	VA0000005168300003	ICIS-Air	Inspection/Evaluation	PCE Off-Site	State	02/26/2019	
CAA	VA0000005168300003	ICIS-Air	Inspection/Evaluation	PCE On-Site	State	02/25/2019	
CAA	VA0000005168300003	ICIS-Air	Inspection/Evaluation	TV ACC Receipt/Review	State	02/21/2019	Reviewed: 02/26/2019 Facility Reported No Deviations
CAA	VA0000005168300003	ICIS-Air	Inspection/Evaluation	PCE Off-Site	State	08/27/2018	
CAA	VA0000005168300003	ICIS-Air	Inspection/Evaluation	PCE Off-Site	State	03/08/2018	
CAA	VA0000005168300003	ICIS-Air	Inspection/Evaluation	TV ACC Receipt/Review	State	02/27/2018	Reviewed: 03/08/2018 Facility Reported No Deviations
CAA	VA0000005168300003	ICIS-Air	Inspection/Evaluation	PCE Off-Site	State	09/07/2017	
CAA	VA0000005168300003	ICIS-Air	Inspection/Evaluation	PCE Off-Site	State	03/01/2017	
CAA	VA0000005168300003	ICIS-Air	Inspection/Evaluation	TV ACC Receipt/Review	State	02/21/2017	Reviewed: 03/01/2017 Facility Reported No Deviations
CAA	VA0000005168300003	ICIS-Air	Inspection/Evaluation	PCE On-Site	State	12/01/2016	
CAA	VA0000005168300003	ICIS-Air	Inspection/Evaluation	PCE On-Site	State	12/01/2016	

Entries in italics are not counted in EPA compliance monitoring strategies or annual results.

Compliance Summary Data

Statute	Source ID	Current SNC (Significant Noncompliance)/HPV (High Priority Violation)	Current As Of	Qtrs with NC (Noncompliance) (of 12)	Data Last Refreshed
CAA	VA0000005168300003	No	10/09/2021	0	10/08/2021
RCRA	VAD099406308	No	10/09/2021	0	10/08/2021

Three-Year Compliance History by Quarter

Statute	Program/Pollutant/Violation Type	QTR 1	QTR 2	QTR 3	QTR 4	QTR 5	QTR 6	QTR 7	QTR 8	QTR 9	QTR 10	QTR 11	QTR 12+
CAA (Source ID: VA0000005168300003)		10/01-12/31/18	01/01-03/31/19	04/01-06/30/19	07/01-09/30/19	10/01-12/31/19	01/01-03/31/20	04/01-06/30/20	07/01-09/30/20	10/01-12/31/20	01/01-03/31/21	04/01-06/30/21	07/01-09/30/21
	Facility-Level Status	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified
	HPV History												
	Violation Type	Agency	Programs	Pollutants									
RCRA (Source ID: VAD099406308)		10/01-12/31/18	01/01-03/31/19	04/01-06/30/19	07/01-09/30/19	10/01-12/31/19	01/01-03/31/20	04/01-06/30/20	07/01-09/30/20	10/01-12/31/20	01/01-03/31/21	04/01-06/30/21	07/01-09/30/21
	Facility-Level Status	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified

Informal Enforcement Actions (5 Years)

Statute	System	Source ID	Type of Action	Lead Agency	Date
No data records returned					

Entries in italics are not counted as "informal enforcement actions" in EPA policies pertaining to enforcement response tools.

Formal Enforcement Actions (5 Years)

Census Block Group EJ Indexes (percentile)	Number of EJ Indexes Above 50 Percentile
Particulate Matter (PM 2.5)	0
Ozone	

NATA Diesel PM	31.7
NATA Air Toxics Cancer Risk	38.7
NATA Respiratory Hazard Index (HI)	38.4
Traffic Proximity	34.3
Lead Paint Indicator	62.8
National Priority List (NPL) Site Proximity	42.7
Risk Management Plan (RMP) Site Proximity	44.2
Hazardous Waste Proximity	25.7
Wastewater Discharge Proximity	30.8

Demographic Profile of Surrounding Area (3 Miles)

This section provides demographic information regarding the community surrounding the facility. ECHO compliance data alone are not sufficient to determine whether violations at a particular facility had negative impacts on public health or the environment. Statistics are based upon the 2010 U.S. Census and 2014 - 2018 American Community Survey (ACS) 5-year Summary and are accurate to the extent that the facility latitude and longitude listed below are correct. EPA's spatial processing methodology considers the overlap between the selected radii and the census blocks (for U.S. Census demographics) and census block groups (for ACS demographics) in determining the demographics surrounding the facility. For more detail about this methodology, see the [DFR Data Dictionary](#).

General Statistics

Total Persons (U.S. Census)	61,733
Population Density	2,203/sq.mi.
Percent People of Color	56%
Households in Area	20,338
Housing Units in Area	20,898
Total Persons (ACS (American Community Survey))	66,049
Households on Public Assistance	517
Persons With Low Income	15,514
Percent With Low Income	24%

Geography

Radius of Selected Area	3 mi.
Center Latitude	38.7397
Center Longitude	-77.50458
Land Area	99%
Water Area	1%

Income Breakdown - Households (%)

Less than \$15,000	1,167 (5.74%)
\$15,000 - \$25,000	853 (4.19%)
\$25,000 - \$50,000	3,466 (17.04%)
\$50,000 - \$75,000	3,435 (16.89%)
Greater than \$75,000	11,419 (56.14%)

Age Breakdown - Persons (%)

Children 5 years and younger	5,330 (9%)
Minors 17 years and younger	17,784 (29%)
Adults 18 years and older	43,949 (71%)
Seniors 65 years and older	3,840 (6%)

Race Breakdown - Persons (%)

White	37,368 (61%)
African-American	9,135 (15%)
Hispanic-Origin	17,462 (28%)
Asian/Pacific Islander	3,893 (6%)
American Indian	396 (1%)
Other/Multiracial	10,941 (18%)

Education Level (Persons 25 & older) - Persons (%)

Less than 9th Grade	3,953 (9.4%)
9th through 12th Grade	2,590 (6.16%)
High School Diploma	10,432 (24.79%)
Some College/2-year	10,788 (25.64%)
B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More	14,313 (34.02%)

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Query executed on OCT-12-2021
 Results are based on data extracted on SEP-22-2021.

Click on "View Facility Information" to view EPA Facility Information for the facility.

Facility Name:	GLEN-GERY CORP	Mailing Name:	GLEN-GERY CORP	
Address:	9905 GODWIN DR MANASSAS VA 20108	Mailing Address:	9905 GODWIN DR BOX 34106MANASSAS VA 20106	
County:	PRINCE WILLIAM	Region:	3	
Facility Information:	View Facility Information	TRI ID:	201106LINGR905G	012355857
Latitude:	38.7987	FMS ID	110001897815	
Public Contact:	JOHN VROBEL	Longitude:	-77.50458	
Assigned Public Contact:	JOHN VROBEL	Phone:	6105623076	
Parent Company:	OLDCASTLE INC	Standardized Parent Company:		Parent DUNS: 037176591
DMA Tribal Code:		Tribes:		

Starting with Reporting Year 2006, TRI Facilities began reporting NAICS codes. Instead of SIC codes, to identify their Primary Business Activities.

NAICS Codes for 2004

NAICS CODE	PRIMARY	NAICS DESCRIPTION
327121	YES	Brick and Structural Clay Tile Manufacturing

The above information comes from 2004, which was the last year NAICS code data was reported for this facility. The earliest NAICS code data on file for this facility was reported in 1997.

Industry Code for 2004

INDUSTRY CODE	INDUSTRY DESCRIPTION
327	Nonmetallic Mineral Product

SIC Codes for 2004

SIC CODE	PRIMARY	SIC DESCRIPTION
3251	YES	BRICK AND STRUCTURAL CLAY TILE

The above information comes from 2004, which was the last year SIC code data was reported for this facility. The earliest SIC code data on file for this facility was reported in 1997.

Besides TRI, this facility also does the following:

- handles hazardous waste
- has reported air releases under the Clean Air Act

More information about these additional regulatory aspects of this facility can be found by pressing the other regulatory data button below.

Other Regulatory Data

Total Aggregate Releases of TRI Chemicals to the Environment:

For all releases estimated as a range, the mid-point of the range was used in these calculations. This table summarizes the releases reported by the facility. NR - signifies nothing reported by this facility for the corresponding medium.

Total Aggregate Releases of TRI Chemicals excluding Dioxin and Dioxin-like Compounds
(Measured in Pounds)

Media	2004	2003	2002	2001	2000	1999	1998	1997
Air Emissions	27200	NR	27300	27600	27900	27597	28040	27720
Surface Water Discharges	NR	NR	NR	NR	NR	NR	NR	NR
Releases to Land	NR	NR	NR	NR	NR	NR	NR	NR
Underground Injection	NR	NR	NR	NR	NR	NR	NR	NR
Total On-Site Releases	27200	NR	27300	27600	27900	27597	28040	27720
Transfer Off-Site to Disposal	NR	NR	NR	NR	NR	NR	NR	NR
Total Releases	27200	NR	27300	27600	27900	27597	28040	27720

Graphic Summary of this Table

Total Aggregate Releases of Dioxin and Dioxin-like Compounds
(Measured in Grams)

Media	2004	2003	2002	2001	2000	1999	1998	1997
Air Emissions	NR	NR	NR	NR	NR	NR	NR	NR
Surface Water Discharges	NR	NR	NR	NR	NR	NR	NR	NR
Releases to Land	NR	NR	NR	NR	NR	NR	NR	NR
Underground Injection	NR	NR	NR	NR	NR	NR	NR	NR
Total On-Site Releases	NR	NR	NR	NR	NR	NR	NR	NR
Transfer Off-Site to Disposal	NR	NR	NR	NR	NR	NR	NR	NR
Total Releases	NR	NR	NR	NR	NR	NR	NR	NR

TRI Chemicals Reported on Form A:

Please note that there were no chemicals reported on Form A for this facility

NOTE:

All chemicals reported below have release or transfer amounts greater than zero. To see a list of all chemicals reported by this facility click here.

Names and Amounts of Chemicals Released to the Environment by Year.

For all releases estimated as a range, the mid-point of the range was used in these calculations. NR - signifies nothing reported for this facility by the corresponding medium. Rows with all "0" or "NR" values were not listed.

Chemical Name	Media	Unit Of Measure	2004	2003	2002	2001	2000	1999	1998	1997
Hydrogen fluoride (TRI Chemical ID: 0007664393)	AIR STACK	Pounds		27200	NR	27300	27600	27900	27597	28040
										27720

Discharge of Chemicals Into Streams or Bodies of Water:

Please note that either there were no releases of chemicals into streams or bodies of water reported by this facility or the facility did not file a TRI form R for the years 1987 to 2004. Rows with Release Amount equal to "0" were not listed.

Summary of Waste Management Activities

Summary of Waste Management Activities excluding Dioxin and Dioxin-like Compounds
(Measured in Pounds)

This facility did not report any waste management activities for non Dioxin-like Compounds.

Summary of Waste Management Activities for Dioxin and Dioxin-like Compounds
(Measured in Grams)

This facility did not report any waste management activities for Dioxin and Dioxin-like Compounds.

Chemicals Under Waste Management:

This facility did not report any chemicals as being treated, recycled, or used in energy recovery.

Publicly Owned Treatment Works (POTW) that Chemicals were Transferred to in 2011 and after:

This facility did not transfer any chemicals to a Publicly Owned Treatment Works (POTW) in 2011 and after.

Publicly Owned Treatment Works (POTW) that Chemicals were Transferred to PRIOR to 2011:

This facility did not transfer any chemicals to a Publicly Owned Treatment Works (POTW) PRIOR to 2011.

Non Production Releases:

This facility did not report any Non-Production releases.

Additional Source Reduction and Pollution Prevention Data:

This facility did not report any additional source reduction and pollution prevention data.

Additional links for TSL:

This information resource is not maintained, managed, or owned by the Environmental Protection Agency (EPA) or the Envirofacts Support Team. Neither the EPA nor the Envirofacts Support Team is responsible for their content or site operation. The Envirofacts Warehouse provides this reference only as a convenience to our internet users.

- National Library of Medicine (NLM) TOXMAP <http://www.nlm.nih.gov/toxmap/>

Data Refresh Information

<https://epa.gov/epa/efw/about-the-efw>



October 28, 2021

Ms. Rachel Studebaker
Dominion Energy Virginia
120 Tredegar St.
Richmond, VA 23219

**Re: Threatened and Endangered Species Review
Line #2011 Extension from Cannon Branch to Winters Branch
City of Manassas and Prince William County, Virginia**

Dear Ms. Studebaker:

On behalf of Dominion Energy Virginia (Dominion Energy), RES conducted database searches to identify federal and state listed threatened and endangered species with the potential to occur in the vicinity of the proposed Line #2011 Extension from Cannon Branch to Winters Branch Project (the Project) area. The Project consists of the following components:

- i. The removal of an approximate 0.06-mile segment of the existing 230 kilovolt (kV) Line #2011 termination between Cannon Branch Substation and Structure #2011/68; and
- ii. The construction of a new approximately 1.05-mile segment of 230 kV Line #2011 starting south of Cannon Branch Substation and terminating at Winters Branch Substation in a newly acquired, variable width right-of-way expansion, ranging in width from 50 to 120 feet, parallel and to the south and east of the existing variable width right-of-way containing 230 kV Lines #2195 and #2148.

RES performed an evaluation of the Project area by obtaining and reviewing available natural resource information from various databases, including the following:

- U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation online system (IPaC)
- USFWS Bald Eagle Concentration Area Map
- Virginia Department of Wildlife Resources (DWR) Virginia Fish and Wildlife Information Service (VAFWIS)
- Virginia Department of Conservation and Recreation's (DCR) Natural Heritage Data Explorer (NHDE)
- Center for Conservation Biology's (CCB) Eagle Nest Locator
- DWR Northern Long Eared Bat (NLEB) Winter Habitat and Roost Tree Application
- DWR Little Brown Bat (MYLU) and Tri-colored Bat (PESU) Winter Habitat and Roosts online mapping portal

RESULTS

Species with confirmed or potential presence within the Project vicinity have been identified by database searches and are provided in Table 1 below.

**Table 1. Database Search Results**

Species: Common Name (Scientific Name)	Status	Database	Results
Northern long-eared bat (<i>Myotis septentrionalis</i>)	FTST	USFWS - IPaC DWR - NLEB Winter Habitat and Roost Tree Map	No known hibernacula or summer roosts are identified in the vicinity of the Project. Follow 4(d) Rule. Not likely to adversely affect this species.
Brook floater (<i>Alasmodonta varicosa</i>)	SE	DWR – VAFWIS DCR – NHDE	Species observed in Broad Run; Identified as potentially occurring within the Project vicinity. No adverse effects expected; no in-stream work proposed.
Yellow lance (<i>Elliptio lanceolata</i>)	FTST	DWR - VAFWIS	Species observed in Broad Run; Identified as potentially occurring within the Project vicinity. No adverse effects expected; no in-stream work proposed.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	ST	DWR - VAFWIS	Identified as potentially occurring within the Project vicinity. No adverse effects expected; suitable habitat likely not present.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	BGEPA	CCB	Identified one nest (ID: PW1403) within approximately 1,460 feet of the Project area. Not likely to adversely affect this species or the identified nest; the nest is located over 660 feet from the Project area.

FE: federally endangered, FT: federally threatened, SE: state endangered, ST: state threatened, BGEPA: Bald and Golden Eagle Protection Act

CONCLUSION

The following conclusions are based upon the proposed scope of work, as described by Dominion Energy. The proposed scope of work assumes construction access will avoid stream crossings where practical or use crane mats to span stream crossings, and erosion and sediment controls will be used as appropriate throughout the Project to protect wetlands and water resources. Additionally, the scope of work assumes most of the work will occur within existing, cleared and maintained right-of-way and areas previously cleared for the development of the Winters Branch Substation and industrial and commercial developments; however, additional clearing may be required for the proposed right-of-way expansion for the approximate 1.05-mile new segment of Line #2011.

Northern Long-eared Bat

The USFWS IPaC database identified the NLEB as potentially occurring within or near the Project area; however, the DWR NLEB Winter Habitat and Roost Tree Application map shows no known hibernacula or maternity roost trees are within the Project vicinity. NLEBs spend the winter hibernating in caves and mines, called hibernacula. They use areas in various sized caves or mines with constant temperatures, high humidity, and no air currents. During the summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags (dead trees). Males and non-reproductive females may also roost in cooler places, like caves and mines. NLEBs seem to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices. This bat has also been



found rarely roosting in structures, like barns and sheds (<https://www.fws.gov/Midwest/endangered/mammals/nleb/nlebFactSheet.html>). Since the Project will occur within an existing maintained right-of-way and areas previously cleared for the construction of the Winters Branch Substation and industrial and commercial facilities, tree clearing is expected to be minimal and will include danger tree and limb removal along the right-of-way. Given that no hibernacula or maternity roost trees occur in the vicinity of the Project, no impacts are expected. To the extent that impact may be possible, the Project can rely on the findings of the 4(d) rule for necessary tree removal provided the proposed clearing occurs outside the pup season time of year restriction for NLEB (June 1 -July 31) prescribed under the rule.

Yellow Lance and Brook Floater

According to the DWR VAFWIS, the yellow lance and brook floater were identified as potentially occurring within the Project vicinity, and both species have been observed within Broad Run, which is located approximately 1.10 miles west of the Project area. Based on the anticipated scope of the Project and lack of streams within the Project area, there are no anticipated impacts to the brook floater and yellow lance. No in-stream work is proposed, as all streams and other Waters of the U.S. (WOUS) that may be crossed for construction access will use non-impacting temporary structures such as timber mats or timber mat bridges. If the Project scope changes to include in-stream work, additional coordination may be required.

Loggerhead Shrike

Additionally, the DWR VAFWIS identified the loggerhead shrike as potentially occurring within the Project vicinity. Suitable habitat for the loggerhead shrike generally consists of semi-open terrain, including large clearings in wooded areas to open grassland with a few scattered trees or large shrubs. Loggerhead shrikes prefer areas with short, maintained grass and suitable perching sites for stalking and capturing prey. According to the DWR VAFWIS, no known occurrences were identified within the search radius, and the Project area consists of developed areas and maintained right-of-way which is surrounded by commercial and industrial developments. It is unlikely suitable habitat exists within the Project area.

Bald Eagle

The CCB Bald Eagle Nest Locator identified no bald eagle nests within 660 feet of the Project area. The closest identified nest (Nest PW1403) to the Project is located approximately 1,460 feet from the Project area. The USFWS Virginia Bald Eagle Concentration Area Map confirms that the proposed Project area does not intersect any designated bald eagle concentration areas.

Based on the scope of the proposed work, adverse effects to threatened and endangered species are not anticipated. The complete results from the database searches are provided for your reference and for use in agency coordination.

If you have any questions regarding the information presented in this report, please feel free to contact me.



Best Regards,

Colin Zehrer
Regulatory Specialist
(804) 350-6411
czehrer@res.us

Attachments: Attachment A – Project Overview Map
Attachment B – USFWS IPaC Species List
Attachment C – DWR VAFWIS Search Report
Attachment D – DCR NHDE Species and Communities Search
Attachment E – CCB Eagles Nest Locator Map
Attachment F – FWS Bald Eagle Concentration Areas Map
Attachment G – NLEB Locations and Roost Trees Map
Attachment H – Little Brown Bat and Tri-Colored Bat Winter Habitat and Roost
Tree Locations



ATTACHMENT A
PROJECT OVERVIEW MAP

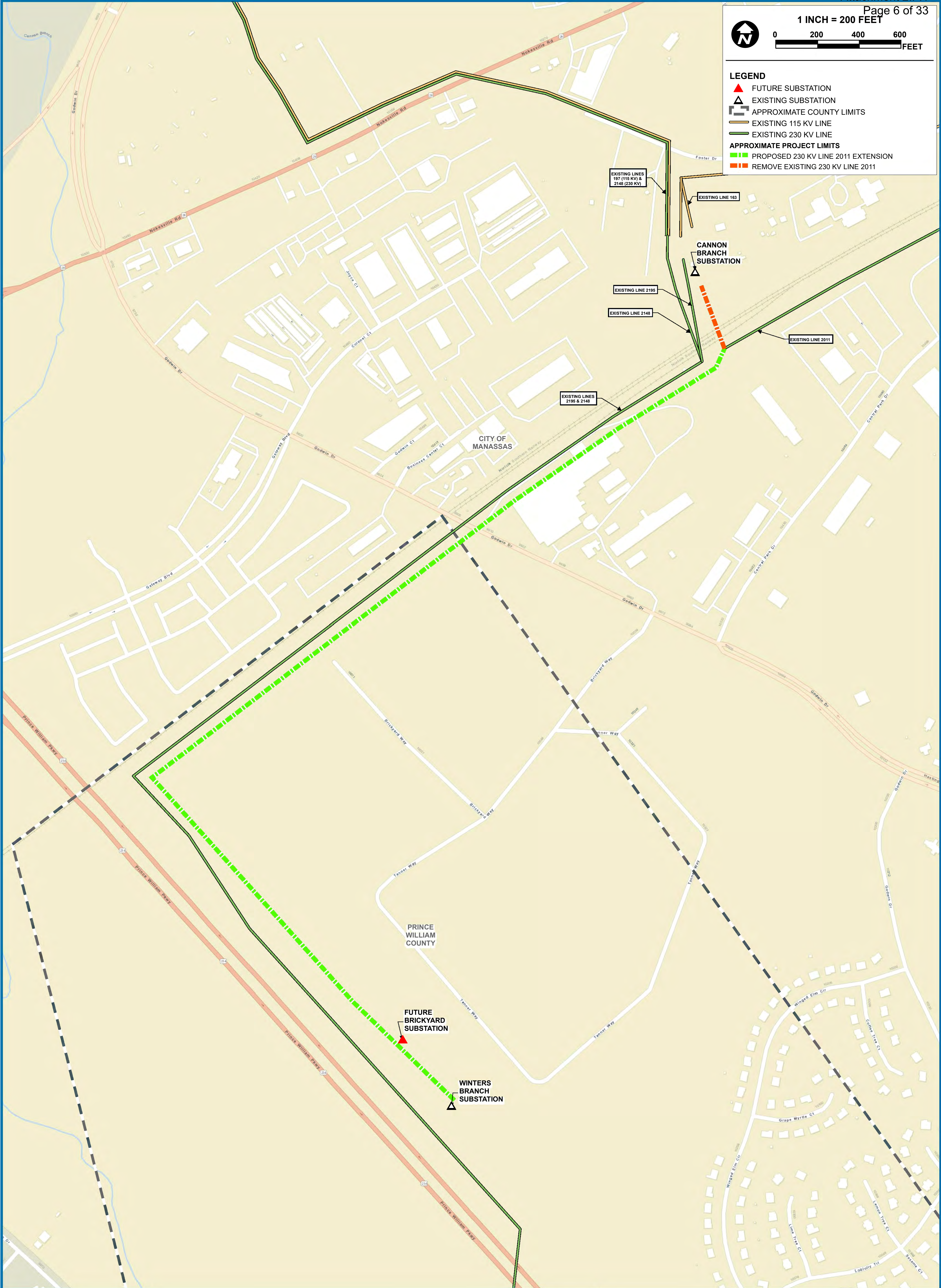
1 INCH = 200 FEET



0 200 400 600
FEET

LEGEND

- FUTURE SUBSTATION
- EXISTING SUBSTATION
- APPROXIMATE COUNTY LIMITS
- EXISTING 115 KV LINE
- EXISTING 230 KV LINE
- APPROXIMATE PROJECT LIMITS**
- PROPOSED 230 KV LINE 2011 EXTENSION
- REMOVE EXISTING 230 KV LINE 2011



PROJECT MANAGER:	KB
DRAWN:	LC
JOB NUMBER:	103811
DATE:	10/06/2021
REVISIONS:	

TL #2011 EXTENSION FROM
CANNON BRANCH TO WINTERS BRANCH
APPLICANT: DOMINION ENERGY
PROJECT OVERVIEW MAP
I.A.1.
CITY OF MANASSAS AND PRINCE WILLIAM COUNTY
VIRGINIA



CORPORATE | 6575 WEST LOOP SOUTH, SUITE 300, BELLAIRE, TX 77401
P: 713.520.5400





ATTACHMENT B
USFWS IPAC SPECIES LIST



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032
<http://www.fws.gov/northeast/virginiafield/>



In Reply Refer To:

October 05, 2021

Consultation Code: 05E2VA00-2022-SLI-0039

Event Code: 05E2VA00-2022-E-00132

Project Name: Line 2011 Extension from Cannon Branch to Winter's Branch

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

[http://](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html)

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2022-SLI-0039

Event Code: Some(05E2VA00-2022-E-00132)

Project Name: Line 2011 Extension from Cannon Branch to Winter's Branch

Project Type: TRANSMISSION LINE

Project Description: The proposed project consists of the following: the removal of approximately 0.06 mile of the existing 230 kilovolt (kV) Line #2011 termination between Cannon Branch Substation and Structure #2011/68 ("Partial Line #2011 Removal"), and the construction of a new approximately 1.05-mile segment of 230 kV Line #2011 starting south of Cannon Branch Substation and terminating at Winter's Branch Substation in a newly acquired 50-foot right-of-way expansion parallel and to the south and east of the existing variable width right-of-way containing 230 kV Lines #2195 and #2148 ("Line 2011 Extension").

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.73816335,-77.51029873260856,14z>



Counties: Manassas and Prince William counties, Virginia

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.



ATTACHMENT C
DWR VAFWIS SEARCH REPORT

Known or likely to occur within a **2 mile radius around point 38.7398080 -77.5073378**
in **153 Prince William County, 683 Manassas City, VA**

[View Map of
Site Location](#)

560 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 29) (29 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		BOVA
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
060029	FTST	IIa	Lance, yellow	Elliptio lanceolata	Yes	BOVA,SppObs,HU6
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050027	SE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
060006	SE	Ib	Floater, brook	Alasmodonta varicosa	Yes	BOVA,TEWaters,Habitat,SppObs,HU6
030062	ST	Ia	Turtle, wood	Glyptemys insculpta		HU6
040096	ST	Ia	Falcon, peregrine	Falco peregrinus		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus	Potential	BOVA,BBA
040379	ST	Ia	Sparrow, Henslow's	Centronyx henslowii		BOVA,HU6
100155	ST	Ia	Skipper, Appalachian grizzled	Pyrgus wyandot		HU6
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA,HU6
030012	CC	IVa	Rattlesnake, timber	Crotalus horridus		BOVA
010077		Ia	Shiner, bridle	Notropis bifrenatus		BOVA
040040		Ia	Ibis, glossy	Plegadis falcinellus		HU6
040306		Ia	Warbler, golden-winged	Vermivora chrysoptera		BOVA
100248		Ia	Fritillary, regal	Speyeria idalia idalia		BOVA,HU6
040213		Ic	Owl, northern saw-whet	Aegolius acadicus		BOVA,HU6
040052		IIa	Duck, American black	Anas rubripes		BOVA,HU6
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040181		IIa	Tern, common	Sterna hirundo		BOVA,HU6
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA,HU6
040140		IIa	Woodcock, American	Scolopax minor	Potential	BOVA,BBA,HU6

040203		IIb	Cuckoo, black-billed	Coccyzus erythrophthalmus	Potential	BOVA,BBA	Attachment 2.F.1 Page 16 of 33
040105		IIb	Rail, king.	Rallus elegans		BOVA	
040304		IIc	Warbler, Swainson's	Limnothlypis swainsonii		HU6	
100154		IIc	Butterfly, Persius duskywing.	Erynnis persius persius		HU6	
100166		IIc	Skipper, Dotted	Hesperia attalus slossonae		HU6	

To view **All 560 species** [View 560](#)

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need
Virginia Wildlife Action Plan Conservation Opportunity Ranking:

- a - On the ground management strategies/actions exist and can be feasibly implemented.;
- b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;
- c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

[View Map of All Query Results from All Observation Tables](#)

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams

N/A

Impediments to Fish Passage

N/A

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters (17 Reaches)

[View Map of All Threatened and Endangered Waters](#)

Stream Name	T&E Waters Species						View Map
	Highest TE *	BOVA Code, Status *, Tier **, Common & Scientific Name					
Broad Run (015607.)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes
Broad Run (016525.)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes
Broad Run (019062.)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes
Broad Run (019494.)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes
Broad Run (021994.)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes

Broad Run (022362)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes
Broad Run (022431)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes
Broad Run (022606)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes
Broad Run (023568)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes
Broad Run (024508)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes
Broad Run (024722)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes
Broad Run (024825)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes
Broad Run (026195)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes
Broad Run (026918)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes
Broad Run (027949)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes
Broad Run (029210)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes
Broad Run (06822)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Species Observations (69 records - displaying first 20 , 6
Observations with Threatened or
Endangered species)

[View Map of All Query Results
Species Observations](#)

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE*	Highest Tier**	
55402	SppObs	Aug 21 1998	BEATY, WINTERRINGER, ZIMMERMAN, MAIR, JONES, DORSEY, CHEN, , AND GILBERT, VIRGINIA COOPERATIVE FISH AND WILDLIFE RESEARCH UNIT	6	FTSE	I	Yes
55694	SppObs	Aug 21 1998	Braven B. Beaty and Richard J. Neves, Virginia Cooperative Fish and Wildlife Unit, VA Tech	6	FTSE	I	Yes
3602	SppObs	Sep 24 1991	Div. Natural Heritage	4	FTSE	I	Yes
315311	SppObs	Sep 16 2005	D. Neves, J. Jones, A. Liberty, H. Dan, J. Schmerfeld, T. Bolton	2	FTST	II	Yes

5952	SppObs	Aug 24 1993	Stevenson, P. H.	8	SE	I	Yes
5949	SppObs	Aug 23 1993	Stevenson, P. H.	9	SE	I	Yes
607558	SppObs	Jun 6 2009	Mark; Causey	1		III	Yes
602319	SppObs	May 29 2009	Mark; Causey	1		III	Yes
605908	SppObs	May 28 2009	Mark; Causey	1		III	Yes
317201	SppObs	Jun 23 2006	Christine Geist	1		III	Yes
307474	SppObs	Jun 6 2004	Mark Causey	1		III	Yes
300217	SppObs	May 22 2001	Mark F. Causey, Ken H. Bass, Liam J. McGranaghan	1		III	Yes
300220	SppObs	May 21 2001	Mark F. Causey, Ken H. Bass, Liam J. McGranaghan	1		III	Yes
4815	SppObs	Jan 1 1900	Erika Wilson	1		III	Yes
605696	SppObs	Jun 13 2008	Philip; Stevenson	3		IV	Yes
604718	SppObs	Jun 12 2008	Philip; Stevenson	6		IV	Yes
604337	SppObs	Jun 11 2008	Philip; Stevenson	6		IV	Yes
605339	SppObs	Jun 10 2008	Philip; Stevenson	3		IV	Yes
606128	SppObs	Jun 10 2008	Philip; Stevenson	2		IV	Yes
600130	SppObs	Jun 10 2008	Philip; Stevenson	2		IV	Yes

Displayed 20 Species Observations

Selected 69 Observations [View all 69 Species Observations](#)

Habitat Predicted for Aquatic WAP Tier I & II Species (1 Reach)

[View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species](#)

Stream Name	Tier Species						View Map
	Highest TE *	BOVA Code, Status *, Tier **, Common & Scientific Name					
Broad Run (20700102)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes
Broad Run (20700102)	SE	060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE *	Highest Tier **	
50196	Gainesville, SE	74		III	Yes
51181	Independent Hill, NW	1			Yes
51195	Manassas, SW	1			Yes
50184	Nokesville, CE	94	ST	I	Yes
50182	Nokesville, NE	84		II	Yes

Public Holdings:

N/A

Summary of BOVA Species Associated with Cities and Counties of the Commonwealth of Virginia:

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
153	Prince William	483	FESE	I
683	Manassas City	372	FTSE	I

USGS 7.5' Quadrangles:

Nokesville
 Gainesville
 Independent Hill
 Manassas

USGS NRCS Watersheds in Virginia:

N/A

USGS National 6th Order Watersheds Summary of Wildlife Action Plan Tier I, II, III, and IV Species:

HU6 Code	USGS 6th Order Hydrologic Unit	Different Species	Highest TE	Highest Tier
PL33	Kettle Run	59	FTSE	I
PL34	Broad Run-Rocky Branch	59	FTSE	I
PL41	Occoquan River-Occoquan Reservoir-Lake Jackson	56		I
PL44	Middle Bull Run	72	FTSE	I

Compiled on 10/5/2021, 6:49:18 AM I1141764.0 report=all searchType= R dist= 3218 poi= 38.7398080 -77.5073378

PixelSize=64; Anadromous=0.018887; BBA=0.032477; BECAR=0.01784; Bats=0.017889; Buffer=0.060611; County=0.055658; HU6=0.045185; Impediments=0.017832; Init=0.088517; PublicLands=0.022131; Quad=0.02497; SppObs=0.241575; TEWaters=0.028292; TierReaches=0.046252; TierTerrestrial=0.026291; Total=0.91724; Tracking_BOVA=0.190111; Trout=0.018697; huva=0.021253

**38,44,18.1 -77,30,37.3
is the Search Point**

Show Position Rings

☒ Yes ☐ No

1 mile and 1/4 mile at the Search Point

Show Search Area

☒ Yes ☐ No

radius
2 Search distance miles

Search Point is at
map center

Base Map Choices

Topography

Map Overlay Choices

Current List: Position, Search,
BECAR, BAEANests,
TTEWaters, TierII, Habitat,
Trout, Anadromous

Map Overlay Legend



Map Click

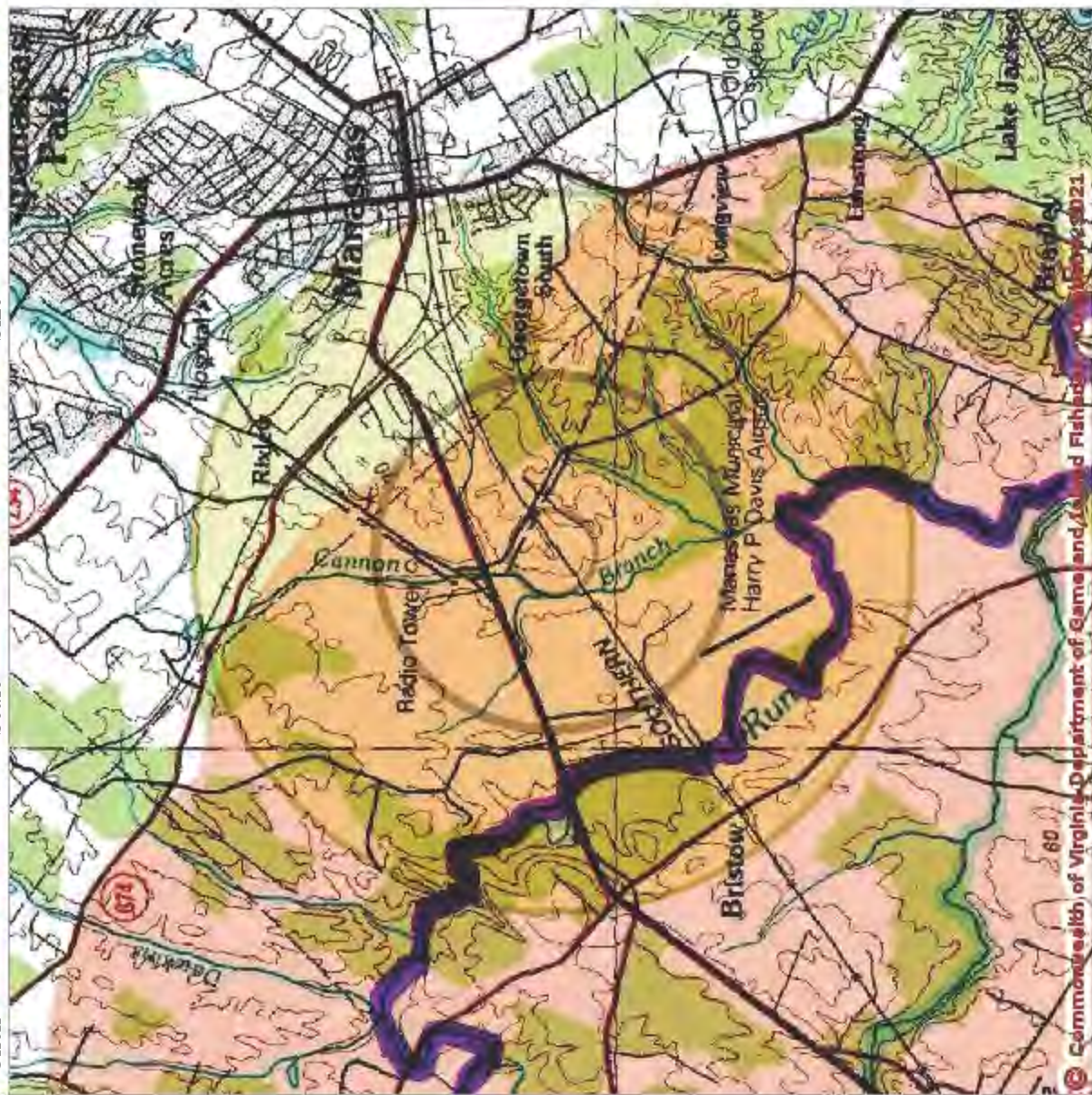
Map
Scale

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Size

Small Size

[Help](#)





T & E Waters

Federal

State

Predicted Habitat
WAP Tier I & II

Aquatic

Terrrestrial

Trout Waters

Class I - IV

Class V - VI

Anadromous Fish Reach

Confirmed

Potential

Impediment

Position Rings
1 mile and 1/4
mile at the
Search Point

2 mile radius
Search Area

Bald Eagle
Concentration Areas
and Roosts

Point of Search 38,44,18.1 -77,30,37.3

Map Location 38,44,18.1 -77,30,37.3

Select **Coordinate System:** Degrees,Minutes,Seconds Latitude - Longitude

Decimal Degrees Latitude - Longitude

Meters UTM NAD83 East North Zone

Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see [Microsoft terraserver-usa.com](https://terraserver-usa.com) for details)

Map projection is UTM Zone 18 NAD 1983 with left 277011 and top 4295537. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

Topographic maps and Black and white aerial photography for year 1990+- are from the United States Department of the Interior, United States Geological Survey. Color aerial photography acquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network. Shaded topographic maps are from TOPO! ©2006 National Geographic <http://www.national.geographic.com/topo> All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2021-10-04 10:32:23 (qa/qc March 21, 2016 12:20 - tn=1141625.0 dist=3218 I)

\$poi=38.7383760 -77.5103725

4 Species Observations
where Lance, yellow
(060029) observed

38,44,18.1 -77,30,37.3
is the Search Point

Show Position Rings

☒ Yes ☐ No
1 mile and 1/4 mile at the
Search Point

Show Search Area

☒ Yes ☐ No
2 Search distance miles
radius

Search Point is at
map center

Base Map Choices

Topography 

Map Overlay Choices

Current List: Position, Search,
SppObs

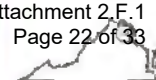
Map Overlay Legend

-  Position Rings
1 mile and 1/4
mile at the
Search Point
-  2 mile radius
Search Area
-  Data
Observation Site

Virginia Fish and Wildlife Information Service



Attachment 2.F.1
Page 22 of 33

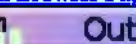


[Refresh Browser Page](#)

Map
Click

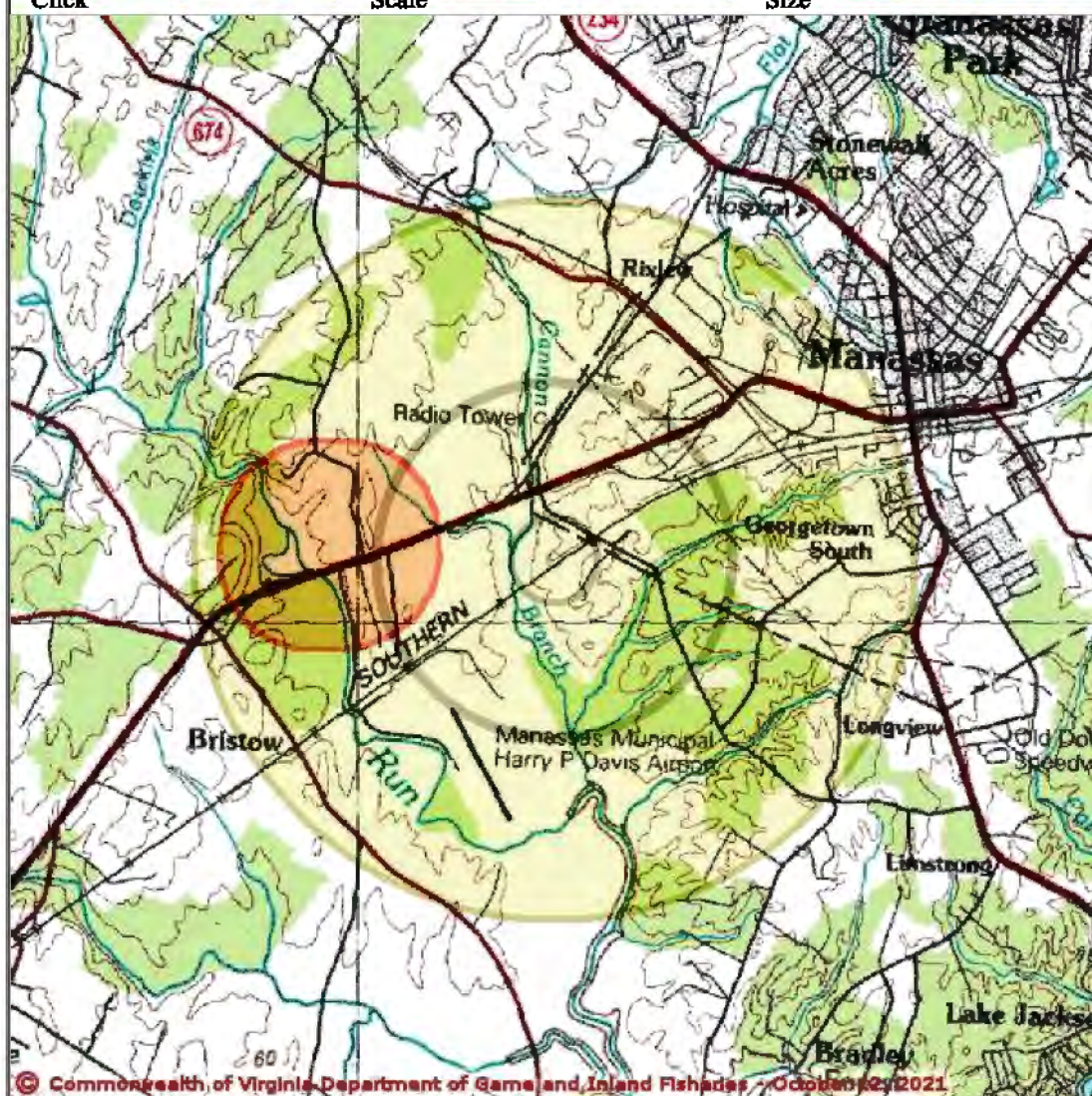
Map
Scale

Screen
Size

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N
↑



Point of Search 38,44,18.1 -77,30,37.3

Map Location 38,44,18.1 -77,30,37.3

Select Coordinate System: ☒ Degrees, Minutes, Seconds Latitude - Longitude

☐ Decimal Degrees Latitude - Longitude

☐ Meters UTM NAD83 East North Zone

☐ Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see [Microsoft terraserver-usa.com](https://microsoft.terraserver-usa.com) for details)

Map projection is UTM Zone 18 NAD 1983 with left 277012 and top 4295535. Pixel size is 16 meters. Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixels. The map display represents

9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

Attachment 2.F.1
Page 23 of 33

Topographic maps and Black and white aerial photography for year 1990+- are from the United States Department of the Interior, United States Geological Survey. Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network. Shaded topographic maps are from TOPO! ©2006 National Geographic <http://www.national.geographic.com/topo>
All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2021-10-12 09:47:10 (qa/qc March 21, 2016 12:20 - tn=1142983.1 dist=3218 I)
\$poi=38.7383611 -77.5103611



ATTACHMENT D
DCR NHDE SPECIES AND COMMUNITIES SEARCH

Natural Heritage Resources

Your Criteria

Federal Legal Status: LE - Listed endangered,LT - Listed threatened
State Legal Status: LE - Listed endangered,LT - Listed threatened
Watershed (8 digit HUC): 02070010 - Middle Potomac-Anacostia-Occoquan
Subwatershed (12 digit HUC): PL34 - Broad Run-Rocky Branch

Search Run: 10/14/2021 16:13:24 PM

Result Summary

Total Species returned: 1

Total Communities returned: 0

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
-------------------------------------	-----------------	---------------------------	---	--	--------------------------------------	------------------------------------	--------------------------	--------------------------

Middle Potomac-Anacostia-Occoquan

Broad Run-Rocky Branch
BIVALVIA (MUSSELS)
Brook Floater
Alasmidonta
varicosa
[Alasmidonta
varicosa](#)

G3

S1

None

LE

13

Y

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an [information request](#).

To Contribute information on locations of natural heritage resources, please fill out and submit a [rare species sighting form](#).

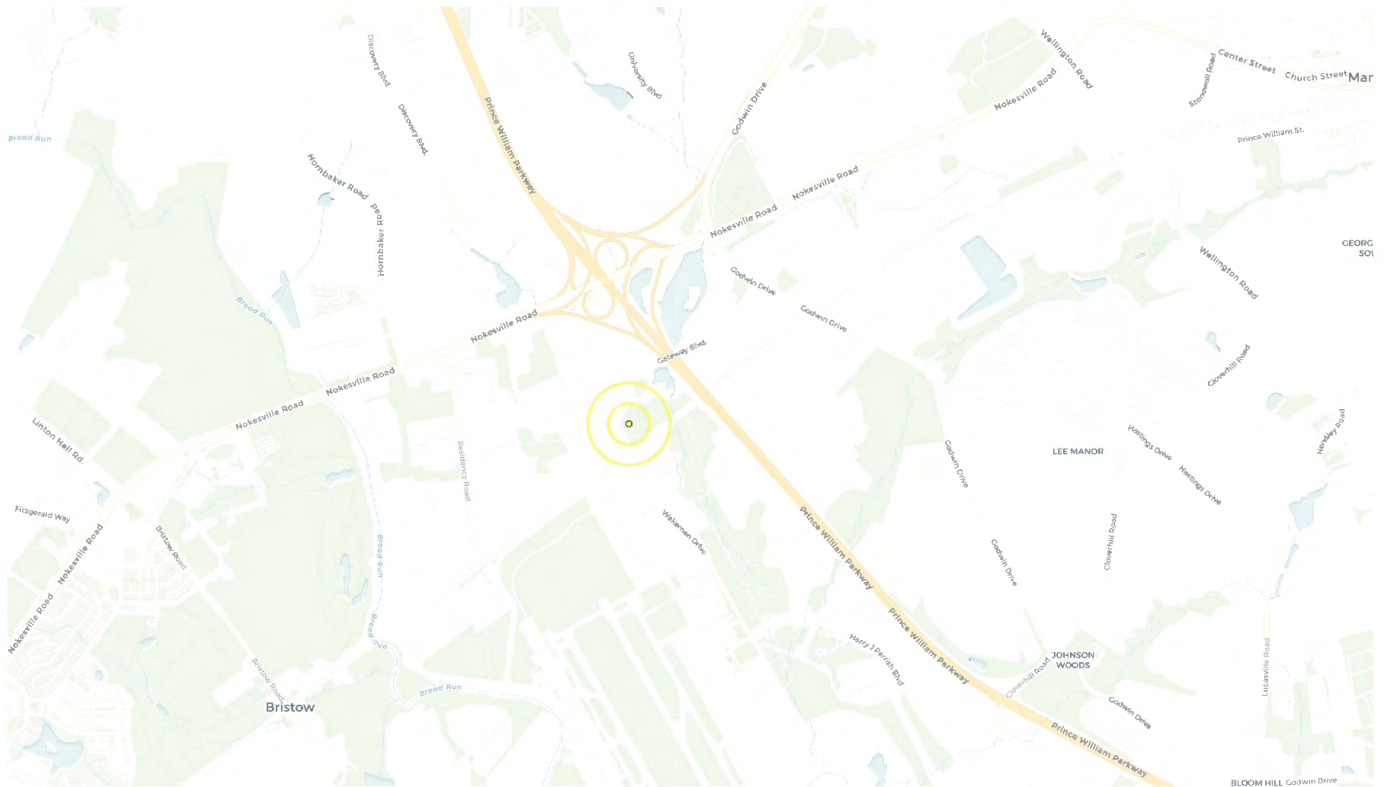


ATTACHMENT E
CCB EAGLES NEST LOCATOR MAP



The CENTER for
CONSERVATION
BIOLOGY

CCB Mapping Portal



Layers: VA Eagle Nest Buffers, VA Eagle Nest Locator, Eagle Roosts, Eagle Roost Polygons, Eagle Roost Buffers, Eagle Roosts by Topoquad

Map Center [longitude, latitude]: [-77.5145959854126, 38.73714691617483]

Map Link:

https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Buffers&layer=VA+Eagle+Nest+Locator&layer=Eagle+Roosts&layer=Eagle+Roost+Polygons&layer=Eagle+Roost+Buffers&layer=Eagle+Roosts+by+Topoquad&zoom=15&lat=38.73714691617483&lng=-77.5145959854126&legend=legend_tab_ae5abd72-c07e-11e5-bfe6-0ecd1babdde5&base=Street+Map+%28OSM%2FCarto%29

Report Generated On: 10/04/2021

The Center for Conservation Biology (CCB) provides certain data online as a free service to the public and the regulatory sector. CCB encourages the use of its data sets in wildlife conservation and management applications. These data are protected by intellectual property laws. All users are reminded to view the [Data Use Agreement](#) to ensure compliance with our data use policies. For additional data access questions, view our [Data Distribution Policy](#), or contact our Data Manager, Marie Pitts, at mlpitts@wm.edu or 757-221-7503.

Report generated by [The Center for Conservation Biology Mapping Portal](#).

To learn more about CCB visit ccbbirds.org or contact us at info@ccbbirds.org



ATTACHMENT F
FWS BALD EAGLE CONCETRATION AREAS MAP

FWS Bald Eagle Concentration Areas



November 15, 2020

1:144,448



County of Prince William, Fairfax County, VA, MNCPPC, VITA, Esri, HERE,



ATTACHMENT G
NLEB LOCATIONS AND ROOST TREES

NLEB Locations and Roost Trees



10/4/2021, 10:44:05 AM

1:18,056

0 0.1 0.2 0.4 mi
0 0.17 0.35 0.7 km

County of Prince William, Fairfax County, VA, VITA, Esri, HERE, Garmin,
INCREMENT P, USGS, METINASA, EPA, USDA



ATTACHMENT H
LITTLE BROWN BAT AND TRI-COLORED BAT WINTER HABITAT AND ROOST TREE
LOCATIONS

MYLU PESU Habitat



10/4/2021, 11:16:33 AM

1:9,028

0 0.05 0.1 0.2 mi
0 0.07 0.15 0.3 km

County of Prince William, Fairfax County, VA, VITA, Esri, HERE, Garmin,
INCREMAP P, Intermap, USGS, MET/NASA, EPA, USDA

Rachel M Studebaker (Services - 6)

From: Martin, Amy <amy.martin@dwr.virginia.gov>
Sent: Wednesday, November 3, 2021 9:49 AM
To: Rachel M Studebaker (Services - 6)
Subject: [EXTERNAL] Re: Line #2011 Extension from Cannon Branch to Winters Branch Project

This is an EXTERNAL email that was NOT sent from Dominion Energy. Are you expecting this message? Are you expecting a link or attachment? DO NOT click links or open attachments until you verify them

Hi Rachel,

As you know.....Due to staffing limitations, we are unable to review and provide comments on projects that are not currently involved in one of the regulatory review processes for which we are a formal consulting agency (see <https://www.DWR.virginia.gov/environmental-programs/>). If your project becomes involved in one of these review processes, we will review the project at that time and provide our comments to the requesting agency. In advance of that, we recommend that you conduct a preliminary desktop analysis to evaluate your project's potential impacts upon the Commonwealth's wildlife resources by accessing our online information system, the Virginia Fish and Wildlife Information Service (VAFWIS) and using the **Geographic Search** function to generate an **Initial Project Assessment** (IPA) report.

We recommend the following steps:

A. Access VAFWIS at this link: <https://vafwis.DWR.virginia.gov/fwis/>
If you are not already a VAFWIS subscriber, you should request to become one by emailing a request to VAFWIS_support@DWR.virginia.gov. VAFWIS Subscriptions are free of charge. As a subscriber, one is able to generate an IPA for the project area (project site plus a minimum 2-mile buffer) which generates a list of imperiled wildlife and designated wildlife resources known from the project area. You may also access VAFWIS as a visitor, but access to data and mapping at this user level is restricted.

Alternatively, you may contact our Geographic Information Systems (GIS) Coordinator, Jay Kapalczynski, at Jay.Kapalczynski@DWR.virginia.gov to request access to the Wildlife Mapping and Environmental Review Map Service (WERMS) which allows you to download GIS data into your own system.

B. Access information about the location of bat hibernacula and roosts from the following locations:

Northern Long-Eared Bats: <https://www.dwr.virginia.gov/wildlife/bats/northern-long-eared-bat-application/>

Little Brown Bats and Tricolored Bats: <https://www.dwr.virginia.gov/wildlife/bats/little-brown-bat-tri-colored-bat-winter-habitat-roosts-application/>

C. Access up to date information about the location and status of bald eagle nests in Virginia by accessing the Center for Conservation Biology's Eagle Nest Locator at <https://ccbbirds.org/what-we-do/research/species-of-concern/virginia-eagles/nest-locator/>

D. Review the DWR information, guidance, and protocols available on our website at the bottom of [this page](#) in the "Additional Resources" section and implement, as appropriate.

E. Include the results of your desktop analysis with your project documents, applications, etc.



Amy Martin

Environmental Services Biologist
Manager, Wildlife Information
she/her/hers

P 804.367.2211

Department of Wildlife Resources

CONSERVE. CONNECT. PROTECT.

A 7870 Villa Park Drive, P.O. Box 90778, Henrico, VA 23228

www.VirginiaWildlife.gov

On Tue, Nov 2, 2021 at 9:11 AM Rachel.M.Studebaker@dominionenergy.com

<Rachel.M.Studebaker@dominionenergy.com> wrote:

Ms. Ewing,

Please see the attached letter and project map notifying you of the Line #2011 Extension from Cannon Branch to Winters Branch Project located in City of Manassas and Prince William County, Virginia.

Please contact me with any questions or for additional information.

Thank you,

Rachel Studebaker

Environmental Specialist III

Dominion Energy Services

120 Tredegar Street, Richmond, VA 23219

Cell: (804) 217-1847



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Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

1111 E. Main Street, Suite 1400, Richmond, Virginia 23219

P.O. Box 1105, Richmond, Virginia 23218

(800) 592-5482

www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director
(804) 698-4000

August 13, 2019

Mr. Jason E. Williams
Director Environmental Services
Dominion Energy
5000 Dominion Boulevard
Glen Allen, VA 23060

Transmitted electronically: jason.e.william@dominionenergy.com

Subject: Dominion Energy (Electric Transmission) – Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management (AS&S for ESC and SWM)

Dear Mr. Williams:

The Virginia Department of Environmental Quality ("DEQ") hereby approves the Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management for Dominion Energy (Electric Transmission) dated "May 29, 2019". This coverage is effective from August 13, 2019 to August 12, 2020.

To ensure compliance with approved specifications, the Virginia Erosion and Sediment Control Law and the Virginia Stormwater Management Act, DEQ staff will conduct random site inspections, respond to complaints, and provide on-site technical assistance with specific erosion and sediment control and stormwater management measures and plan implementation.

Please note that your approved Annual Standards and Specifications include the following requirements:

1. Variance, exception, and deviation requests must be submitted separately from this Annual Standards and Specifications submission to DEQ. DEQ may require project-specific plans associated with variance requests to be submitted for review and approval.
2. The following information must be submitted to DEQ for each project at least two weeks in advance of the commencement of regulated land-disturbing activities. Notifications shall be sent by email to: StandardsandSpecs@deq.virginia.gov
 - i: Project name or project number;
 - ii: Project location (including nearest intersection, latitude and longitude, access point);
 - iii: On-site project manager name and contact info;
 - iv: Responsible Land Disturber (RLD) name and contact info;
 - v: Project description;

Dominion Energy (Electric Transmission) – AS&S for ESC and SWM
August 12, 2019
Page 2 of 2

- vi: Acreage of disturbance for project;
 - vii: Project start and finish date; and
 - viii: Any variances/exceptions/waivers associated with this project.
3. Project tracking of all regulated land disturbing activities (LDA) must be submitted to the DEQ on a bi-annual basis. Project tracking records shall contain the same information as required in the two week e-notifications for each regulated LDA.
 4. Erosion & Sediment Control and Stormwater Management plan review and approval must be conducted by DEQ-Certified plan reviewers and documented in writing.

To ensure an efficient information exchange and response to inquiries, the DEQ Central Office is your primary point of contact. Central Office staff will coordinate with our Regional Office staff as appropriate.

Thank you very much for your submission and continued efforts to conserve and protect Virginia's precious natural resources.

Sincerely,



Jaime B. Robb, Manager
Office of Stormwater Management

Cc: Amelia Boschen, Amelia.h.boschen@dominionenergy.com
Elizabeth Hester, Elizabeth.l.hester@dominionenergy.com
Stacey Ellis, Stacey.t.ellis@dominionenergy.com

Case Decision Information:

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a notice of appeal in accordance with the Rules of the Supreme Court of Virginia with the Director, Department of Environmental Quality. In the event that this decision is served on you by mail, three days are added to that period.

REPORT >

**SCC Pre-Application Analysis
Of Cultural Resources for the Line #2011 Extension
From Cannon Branch to Winters Branch**

LOCATION > Prince William County, Virginia

DATE > OCTOBER 2021

PREPARED FOR >

Dominion Energy



PREPARED BY >

Dutton + Associates, LLC

PROJECT REVIEW # >

Dutton + Associates

CULTURAL RESOURCE SURVEY, PLANNING, AND MANAGEMENT

**SCC Pre-Application Analysis
of Cultural Resources for the Line #2011 Extension
from Cannon Branch to Winters Branch**

Prince William County, Virginia

PREPARED FOR:

DOMINION ENERGY
10900 NUCKOLS ROAD, 4TH FLOOR
GLEN ALLEN, VA 23060

PREPARED BY:

DUTTON + ASSOCIATES, LLC
1115 Crowder Drive
Midlothian, Virginia 23236
804.644.8290

PRINCIPAL INVESTIGATOR:

Robert J. Taylor, Jr. M.A.

October 2021

ABSTRACT

In August 2021, Dutton + Associates, LLC (D+A) conducted a Pre-Application Analysis (analysis) of cultural resources for the Line #2011 Extension from Cannon Branch to Winters Branch Project (the Project) in Prince William County, Virginia. The analysis was performed for Dominion Energy (Dominion) in support of a State Corporation Commission (SCC) application. The analysis was conducted in accordance with Virginia Department of Historic Resources' (VDHR) guidance titled Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia (January 2008) and Commonwealth of Virginia State Corporation Commission Division of Public Utility Regulation Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia (August 2017).

As part of the Line #2011 Extension from Cannon Branch to Winters Branch Project, Dominion plans to build a new approximately 1.05 mile segment of 230kV Line #2011 starting south of Cannon Branch Substation and terminating at Winters Branch Substation in a newly acquired, variable width right-of-way expansion, ranging in width from 50 to 120 feet, parallel and to the south and east of the existing variable width right-of-way containing 230 kV Lines #2195 and #2148. The new structures will be steel monopoles that range from 80-feet to 125-feet tall with an average height of 103-feet. As part of the project, Dominion will also remove approximately 0.06 mile of the existing 230 kV Line #2011 termination between Cannon Branch Substation and Structure #2011/68.

The background research conducted as part of this analysis was guided by VDHR guidance and designed to identify all previously recorded National Historic Landmarks (NHL) located within 1.5-miles of the proposed project or closer, all historic properties listed in the National Register of Historic Places (NRHP) or battlefields located within 1-mile of the proposed project or closer, all historic properties considered eligible for listing in the NRHP located within 0.5-miles of the proposed project or closer, archaeological sites located directly within the proposed project area. Historic properties include architectural and archaeological (terrestrial and underwater) resources, historic and cultural landscapes, battlefields, and historic districts. For each historic property within the defined tiers, a review of existing documentation and a field reconnaissance was undertaken to assess each property's significant character-defining features, as well as the character of its current setting. Following identification of historic properties, D+A assessed the potential for impacts to any identified properties as a result of the proposed project. Specific attention was given to determining whether or not construction related to the project could introduce new visual elements into the property's viewshed or directly impact the property through construction, which would either directly or indirectly alter those qualities or characteristics that qualify the historic property for listing in the NRHP.

VDHR and VCRIS records indicate that there have been twenty-one (21) prior Phase I cultural resource surveys within one mile of the project area, four of which directly included portions of the project area. As a result of these surveys, the entire project area has been subject to cultural resource survey. The VCRIS records reveals there are thirty (30) previously recorded archaeological sites within one mile of the project area, none of which are located within or adjacent to the project area (within 100 feet of the project centerline).

With regards to architectural resources, five (5) historic properties that are either designated and NHL, listed in, or determined eligible or potentially eligible for listing in the NRHP are located within the defined study tiers. This includes no (0) NHLs located within 1.5 mile or closer of the proposed project, two (2) NRHP-listed properties located 1.0 mile or closer of the project (Jennie Dean Memorial Site/ VDHR# 155-0010 and Cannon Branch Fort/ VDHR #155-5020), three (3) battlefields located 1.0 mile or closer of the project (Manassas Station Operations/ VDHR# 076-5036, Second Manassas Battlefield/ VDHR #076-5190, and First Manassas Battlefield/ VDHR #076-5335), and no (0) additional properties that have been determined eligible or potentially eligible for listing in the NRHP that are located within 0.5 mile or closer of the project.

As the project area is located within the vicinity of the downtown/suburban area of Manassas, it and all of the resources are situated within a densely developed landscape. Field inspection, representative photographs, and photo simulation reveal that the project area is screened from many vantage points in the vicinity by intervening development. Where longer vistas are possible and the project area is visible, it is seen in conjunction with a variety of modern development and other infrastructure. The project alignment is an extension of an existing transmission line and will border two additional transmission lines within a shared ROW. The proposed structures will be similar in height and design to the other existing structures in the area. As such, it is anticipated to be visible only from those vantage points where the other existing lines are already visible, and screened from those vantage points where the existing lines cannot be seen. **Therefore, the Line #2011 Extension from Cannon Branch to Winters Branch will not introduce any substantially new or different qualities or features into the viewshed from any of the historic properties and will have no more than a minimal impact as defined by VDHR on any architectural resources that are designated an NHL, listed in the NRHP, or determined eligible or potentially eligible for listing.**

Table 1-1: Potential impacts summary for architectural resources.

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project	Recommended Impact
076-5036	Manassas Station Operations Battlefield (Historic), Bristoe Station Battlefield (Historic), Bull Run Bridge (Historic), Kettle Run Battlefield (Historic), Union Mills (Historic)	DHR Staff: Potentially Eligible	Directly Crossed	Minimal Impact
076-5190	Second Battle of Manassas (Historic/Current), Battle of Gainesville (Historic), Brawner's Farm (Historic), Groveton (Historic), Manassas Plains (Historic), Second Battle of Bull Run (Historic/Current),	DHR Staff: Potentially Eligible	~0.55 Mile	No Impact

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project	Recommended Impact
076-5335	First Battle of Manassas (Historic), Brawner's Farm (Historic), First Battle of Bull Run (Historic), Gainesville (Historic), Groveton (Historic), Manassas Plains (Historic)	DHR Staff: Potentially Eligible	~0.65 Mile	No Impact
155-0010	Jennie Dean Memorial Site (Historic), Manassas Industrial School for Colored Youth (NRHP Listing)	NRHP Listing, VLR Listing	~0.75 Mile	Minimal Impact
155-5020	Cannon Branch Fort (Historic), The Wakeman Site (Historic)	NRHP Listing, VLR Listing	~0.10 Mile	No Impact

With regards to archaeology, there are no (0) previously identified sites located within or adjacent to the project area (within 100 feet of the project centerline). As a result of previously conducted survey, the entire project area has been subject to Phase I cultural resources survey. **It is D+A's opinion that the project will not impact any archaeological sites and no further consideration of archaeological resources is warranted.**

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1. INTRODUCTION

In August 2021, Dutton + Associates, LLC (D+A) conducted a Pre-Application Analysis (analysis) of cultural resources for the Line #2011 Extension from Cannon Branch to Winters Branch Project in Prince William County, Virginia. The analysis was performed for Dominion Energy (Dominion) in support of a State Corporation Commission (SCC) application. The analysis was conducted in accordance with Virginia Department of Historic Resources' (VDHR) guidance titled *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (January 2008) and Commonwealth of Virginia State Corporation Commission Division of Public Utility Regulation *Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia* (August 2017).

This analysis was performed at a level that meets the purpose and intent of VDHR and the SCC's guidance. It provides information on the presence of previously recorded National Historic Landmark (NHL) properties located within a 1.5-mile buffer area established around the project area, properties listed on the National Register of Historic Places (NRHP), battlefields, and historic landscapes located within a 1-mile buffer around the project area, and properties previously determined eligible for listing in the NRHP located within a 0.5-mile buffer area around the project area, and previously identified archaeological resources directly within the project area. This analysis will not satisfy Section 106 identification and evaluation requirements in the event federal permits or licenses are needed; however, it can be used as a planning document to assist in making decisions under Section 106 as to whether further cultural resource identification efforts may be warranted.

This report contains a research design which describes the scope and methodology of the analysis, discussion of previously identified historic properties, and an assessment of potential impacts. D+A Senior Architectural Historian Robert J. Taylor, Jr. M.A. served as Principal Investigator and oversaw the general course of the project and supervised all aspects of the work. Copies of all notes, maps, correspondence, and historical research materials are on file at the D+A main office in Midlothian, Virginia.

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2. PROJECT DESCRIPTION

In order to maintain reliable service for the overall growth in the area and to comply with mandatory North American Electric Reliability Corporation (“NERC”) Reliability Standards, Virginia Electric and Power Company (“Dominion Energy Virginia” or the “Company”) proposes to complete the following in the City of Manassas and Prince William County, Virginia (Figure 2-1):

- i. remove approximately 0.06 mile of the existing 230 kV Line #2011 termination between Cannon Branch Substation and Structure #2011/68 (“Partial Line #2011 Removal”); and
- ii. construct a new approximately 1.05 mile segment of 230 kV Line #2011 starting south of Cannon Branch Substation and terminating at Winters Branch Substation in a newly acquired, variable width right-of-way expansion, ranging in width from 50 to 120 feet, parallel and to the south and east of the existing variable width right-of-way containing 230 kV Lines #2195 and #2148 (“Line 2011 Extension”).

The proposed Partial Line #2011 Removal and the Line #2011 Extension to Winters Branch Substation are collectively referred to as the “Project.”

The new structures will be steel monopoles that range from 80-feet to 125-feet tall with an average height of 103-feet (Table 2-1). Representative typical structure schematics are depicted in Figures 2-2 and 2-3.



Figure 2-1: Project Alignment General Location. Source: Dominion Energy

Table 2-1: Table of proposed structure heights for the Line #2011 Extension from Cannon Branch to Winters Branch. Source: Dominion Energy

Structure Number	Proposed Structure Height (ft)
2011/69	80
2011/70	105
2011/71	110
2011/72	125
2011/73	125
2011/74	80
2011/75	100
Min	80
Max	125
Average	103

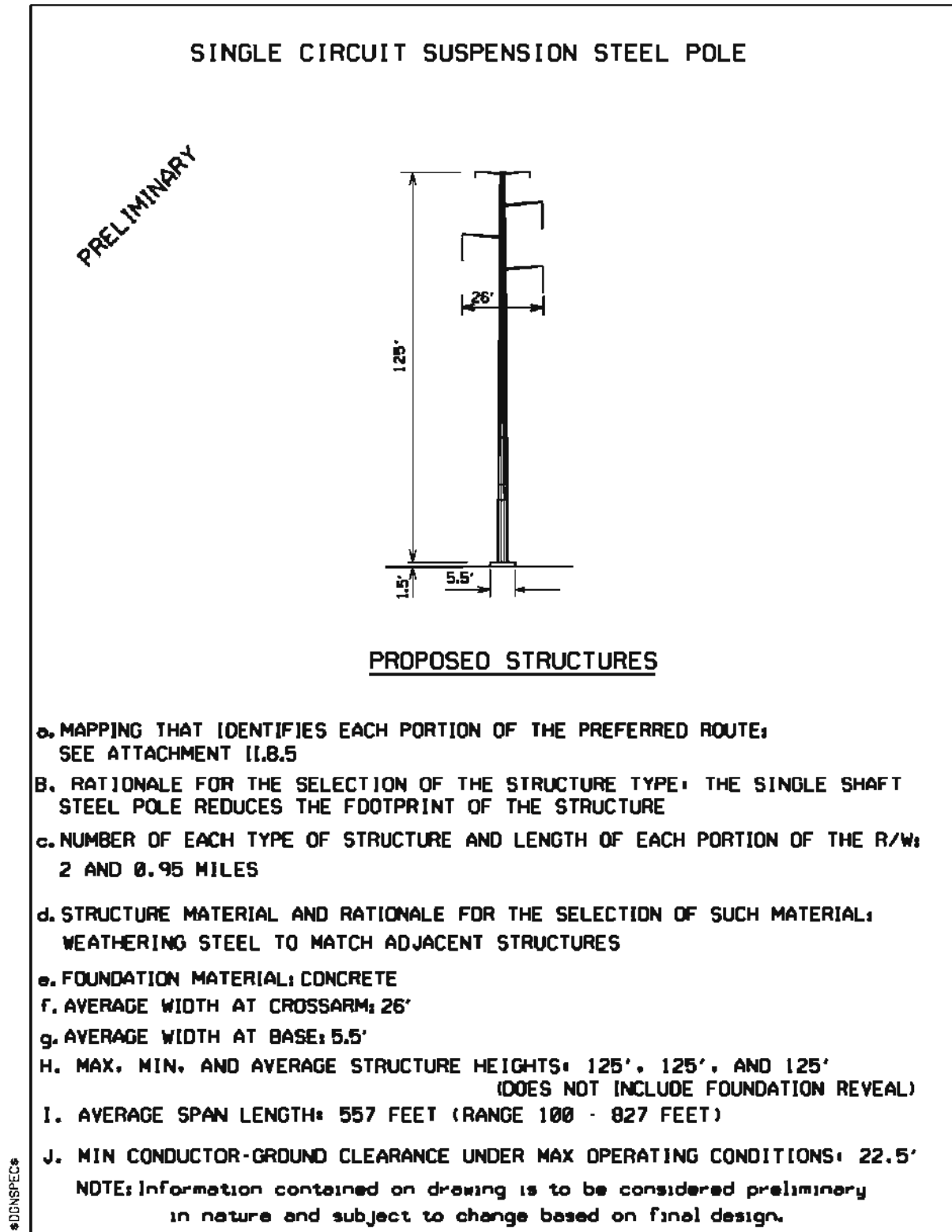


Figure 2-3: Representative Proposed structure schematic (Single Circuit type). Source: Dominion Energy

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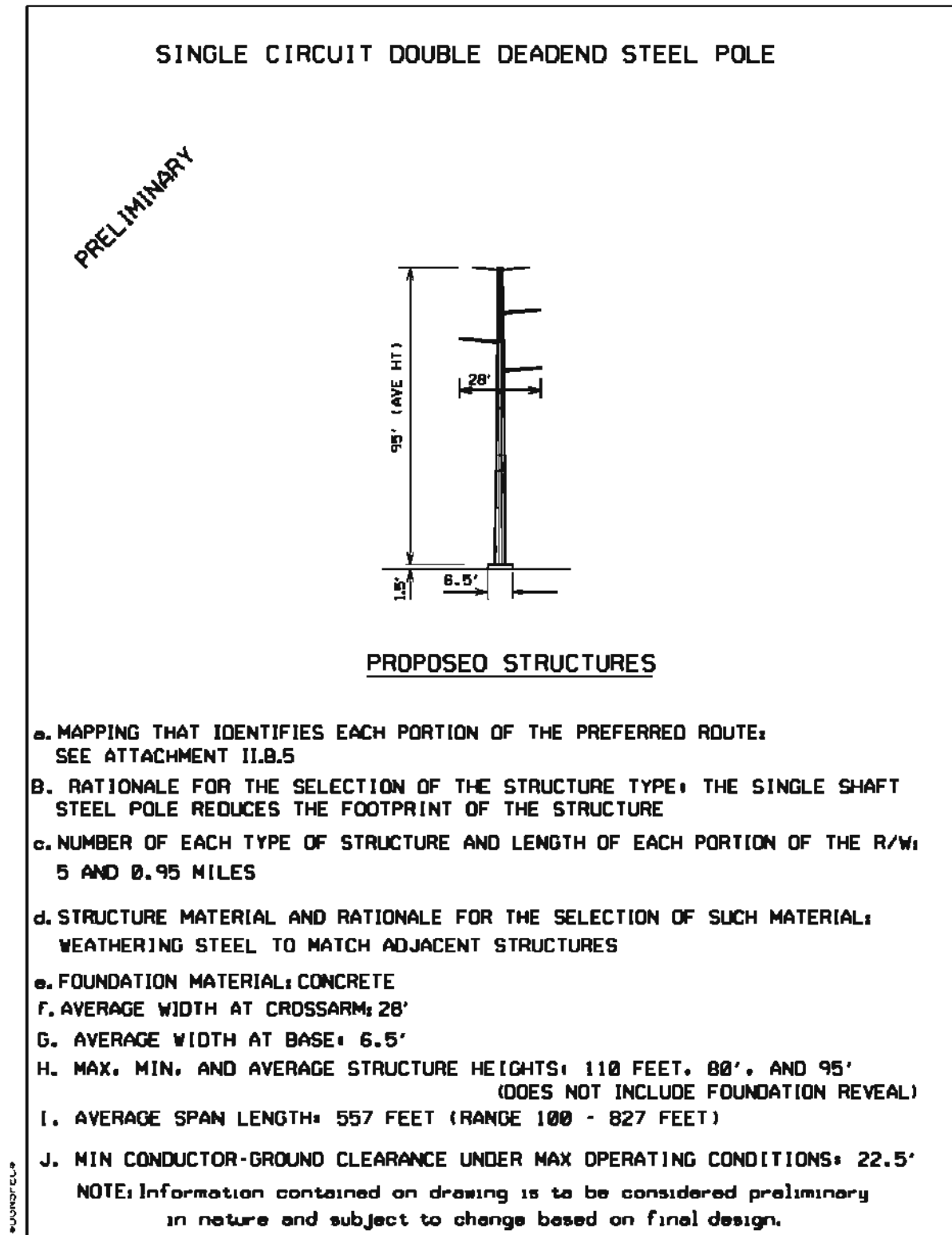


Figure 2-4: Representative proposed structure schematic (double deadend type). Source: Dominion Energy

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3. RESEARCH DESIGN

The intent of this effort was to identify all known historic properties within the vicinity of the proposed project area in order to assess them for potential impacts brought about by the project. Historic properties include architectural and archaeological (terrestrial and underwater) resources, historic and cultural landscapes, battlefields, and historic districts. For each previously recorded historic property, an examination of property documentation, current aerial photography, and a field reconnaissance was undertaken to assess each property's integrity of feeling, setting, and association, and to provide photo documentation of the property including views toward the proposed project. The D+A personnel who directed and conducted this survey meet the professional qualification standards of the Department of the Interior (48 FR 44738-9).

ARCHIVAL RESEARCH

In August 2021, D+A conducted archival research with the goal of identifying all previously recorded historic properties and any additional historic property locations referred to in historic documents and other archives, as well as consultation with local informants and other professionals with intimate knowledge of the project area as appropriate. Background research was conducted at the VDHR and on the internet and included the following sources:

- VDHR Virginia Cultural Resource Information System (V-CRIS) site files; and
- National Park Service (NPS), American Battlefield Protection Program (ABPP), maps and related documentation.

Data collection was performed according to VDHR guidance in *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (January 2008) and was organized in a multi-tier approach. As such, the effort was designed to identify all previously recorded NHL's located within 1.5-miles of the proposed project area, all historic properties listed in the NRHP, battlefields, and historic landscapes located within 1-mile of the project area, all historic properties previously determined eligible for listing in the NRHP located within 0.5-mile of the project area, and all historic properties including archaeological sites located directly within the project area.

FIELD RECONNAISSANCE

Field reconnaissance included visual inspection of those previously recorded historic properties listed in the NRHP located within 1-mile of the project area, and all properties considered eligible for listing in the NRHP within 0.5-miles of the project area. Visual inspection included digital photo documentation of each property's existing conditions including its setting and views toward the proposed project. Photographs were taken of primary resource elevations, general setting, and existing viewsheds. All photographs were taken from public right-of-way or where property access was granted. No subsurface archaeological testing was conducted as part of this effort.

ASSESSMENT OF POTENTIAL IMPACTS

Following identification and field inspection of historic properties, D+A assessed each resource for potential impacts brought about by the proposed project. Assessment of impacts was conducted through a combination of field inspection, digital photography, review of topography and aerial photography, and photo simulation. Photo simulation was conducted from vantage points within or near each resource property deemed most likely to have a change in visibility as a result of the project. The photo simulation entailed digital photography, towards the project, which was then loaded into a computer with location coordinates and ground-elevation. The transmission line structures to be rebuilt as part of the project were then also computer modeled to represent the location, height, and configuration following construction. These models were then overlaid onto the digital photograph so that the existing (unaltered) view can be compared with the simulated view that illustrates the proposed structures, as they would appear on the landscape.

When assessing impacts, D+A considered those qualities and characteristics that qualify the property for listing and whether the project has the potential to alter or diminish the integrity of the property and its associated significance. Specific attention was given to determining whether or not the proposed project would introduce new visual elements into a property's viewshed, which would either directly or indirectly alter those qualities or characteristics that qualify the historic property for listing in the NRHP. Identified impacts were characterized as severe (fully visible and incompatible with character-defining viewshed or setting), moderate (partially visible and incompatible with character-defining viewshed or setting), or minimal (not visible and/or not out of character with existing viewscape) in accordance with the following guidance:

According to VDHR guidance, project impacts are characterized as such:

- **None** – Project is not visible from the property
- **Minimal** – Occur within viewsheds that have existing transmission lines, locations where there will only be a minor change in tower height, and/or views that have been partially obstructed by intervening topography and vegetation.
- **Moderate** – Include viewsheds with expansive views of the transmission line, more dramatic changes in the line and tower height, and/or an overall increase in the visibility of the route from the historic properties.
- **Severe** – Occur within viewsheds that do not have existing transmission lines and where the views are primarily unobstructed, locations where there will be a dramatic increase in tower visibility due to the close proximity of the route to historic properties, and viewsheds where the visual introduction of the transmission line is a significant change in the setting of the historic properties.

REPORT PREPARATION

The results of the archival research, field inspection, and analysis were synthesized and summarized in a summary report accompanied by maps, illustrations, and photographs as appropriate. All research material and documentation generated by this project is on file at D+A's office in Midlothian, Virginia.

4. ARCHIVAL RESEARCH

This section includes a summary of efforts to identify previously known and recorded cultural resources within the tiered project buffers. It includes lists, maps, and descriptive data on all previously conducted cultural resource surveys, and previously recorded architectural resources and archaeological sites according to the VDHR archives and VCRIS database.

PREVIOUSLY SURVEYED AREAS

VDHR and VCRIS records indicate that there have been twenty-one (21) prior Phase I cultural resource surveys within one mile of the project area, four of which directly included portions of the project area. As a result of these surveys, the entire project area has been subject to cultural resource survey. These surveys are at minimum archaeological in nature, although some include architectural resources as well. The previously conducted cultural resource surveys are listed in Table 4-1 and illustrated in Figure 4-1.

Table 4-1: Previously conducted cultural resource surveys within 1-mile of the Project Area. Orange Highlight denotes survey that includes a portion of or crosses the project ROW. Source: VCRIS.

VDHR Survey #	Title	Author	Date
LD-157	Tri-County Parkway Location Study: Architectural Survey	Coastal Carolina Research	2004
PW-002	Archaeological Reconnaissance of the Manassas Municipal Airport, Prince William County, Virginia	Southside Historic Sites, Inc.	1978
PW-034	Phase I Archaeological Reconnaissance Survey, Route 28, Prince William County and City of Manassas, Virginia	Virginia Department of Transportation (Highways and Transportation)	1985
PW-041	Phase I Cultural Resources Survey of the Proposed Manassas Bypass, Route 234, Prince William County, Virginia	Virginia Commonwealth University Archaeology Research Center	1988
PW-067	Supplemental Phase I Archaeological Survey of Design Changes in Ramps and Cloverleaf in Four Locations Along Rt. 234 in Manassas	Virginia Commonwealth University Archaeology Research Center	1992
PW-072	A Phase I Cultural Resource Survey of the Proposed Broad Run Wetland Mitigation Project, Prince William County, Virginia	(College of) William and Mary Center for Archaeological Research	1992
PW-096	Archaeological Investigations at the Manassas Industrial School, Manassas, Virginia	Louis Berger Group (Louis Berger and Associates)	1994
PW-135	Archaeological Investigation of Proposed Route 234 Access Road, Prince William County, Virginia	Louis Berger Group (Louis Berger and Associates)	1999
PW-158	Prince William Innovation: Phase I Archaeological Survey and Architectural History Reconnaissance Survey of the Proposed PWC Innovation Business Park, Prince William County, Virginia	URS Group, Inc.	2002
PW-165	Phase I Archaeological Survey of the Proposed Manassas Municipal Airport Connector Road, Prince William County, Virginia	Cultural Resources, Inc.	2001
PW-234	Phase Ib Archaeological Testing Wellington Road Widening, City of Manassas, Virginia	John Milner Associates	2005
PW-287	Results of a Cemetery Investigation Conducted on the University Station Property, Prince William County, Virginia	Thunderbird Archaeological Associates (Thunderbird Research Corp.)	2003

VDHR Survey #	Title	Author	Date
PW-323	Phase I Archaeological Survey for the Proposed Extension of Runway 16L/34R and Taxiway B, Manassas Regional Airport, City of Manassas, Prince William County, Virginia	Elizabeth Anderson Comer/Archaeology (EAC/A)	2009
PW-415	Phase I Archaeological and Architectural Survey of the Proposed Cannon Branch to Clover Hill 230kV Transmission Line, Prince William County, Virginia	Dutton & Associates	2012
PW-418	Phase I Archaeological and Architectural Survey of the Proposed Cannon Branch Substation to Gainesville Junction 230kV Transmission Line, Prince William County, Virginia	Dutton & Associates	2013
PW-420	A Cultural Resources Survey of the Proposed Virginia Rail Express Broad Run Parking Expansion Project, Prince William County, Virginia	(College of) William and Mary Center for Archaeological Research	2013
PW-430	Phase I Cultural Resources Survey of Approximately 183 Acres at the Airport Gateway Property, Prince William County, Virginia	James River Institute for Archaeology	2005
PW-431	Phase I Archeological Investigation Glen-Gery North Property, Prince William County, Virginia	Thunderbird Archaeological Associates (Thunderbird Research Corp.)	2012
PW-477	Phase I Archeological Investigations of the 52 Acre Innovation Executive Center Property, Prince William County, Virginia	Thunderbird Archaeological Associates (Thunderbird Research Corp.)	2007
PW-552	Addendum Phase IB Cultural Resources Survey of the Virginia Railway Express (VRE) Broad Run Expansion Project, Prince William County, Virginia	Dovetail Cultural Resource Group, LLC	2018
PW-581	A Phase I Investigation of the Circa 24 Acre University Station Property, Prince William County, Virginia	Thunderbird Archaeological Associates (Thunderbird Research Corp.)	2002

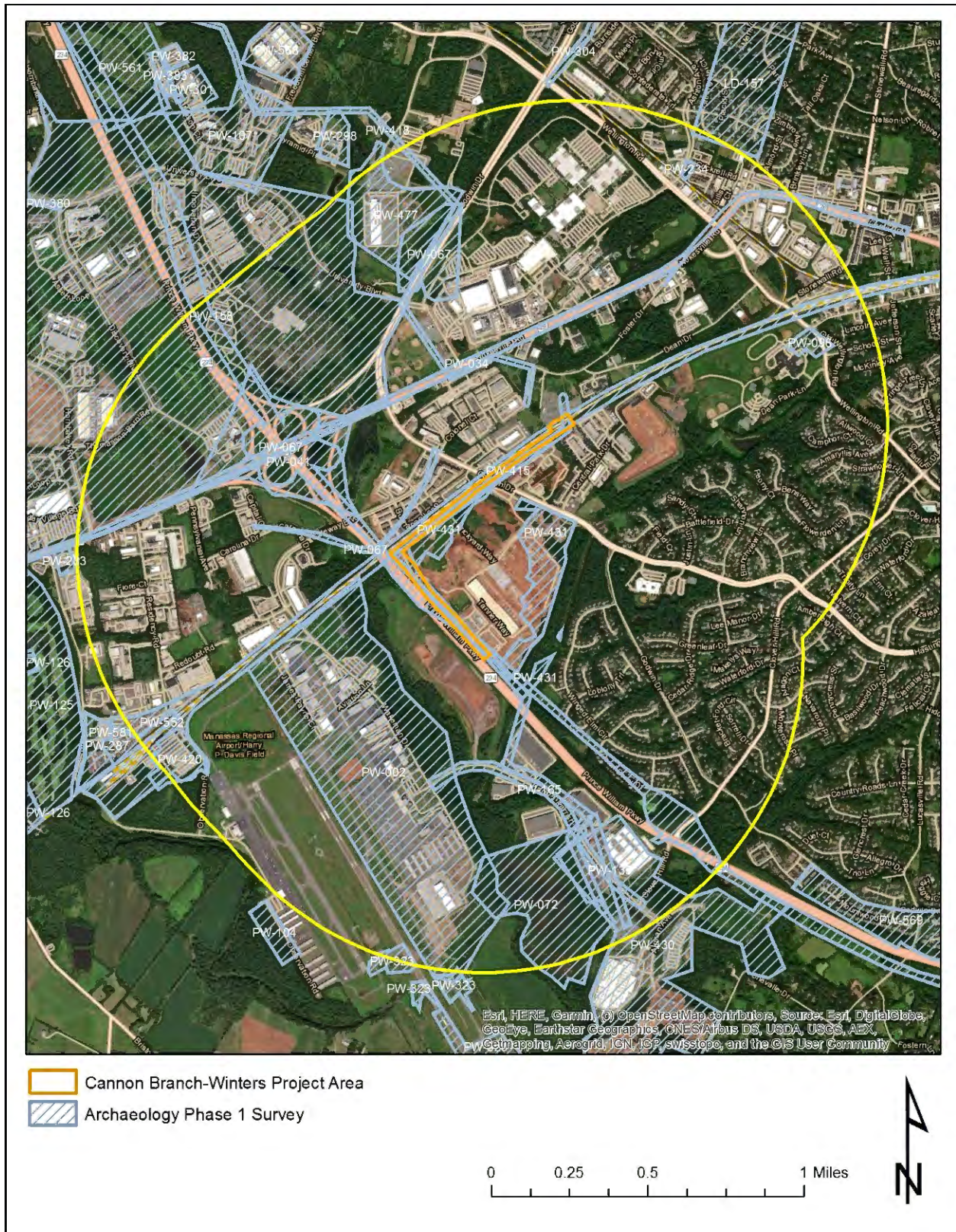


Figure 4-1: Previously conducted phase I surveys within 1-mile of the project area. Source: VCRIS

ARCHITECTURAL RESOURCES

Review of the VDHR VCRIS inventory records revealed a total of 171 previously recorded architectural resources are located within 1.5 mile of the proposed project. Of these, there are no (0) NHLs located within 1.5 mile of the proposed project, a total of two (2) properties listed in the NRHP and three (3) battlefields located within 1.0 mile or closer of the project, and no additional properties that have been determined eligible or potentially eligible for listing in the NRHP within 0.5 mile or closer of the project. Of these, one battlefield is located directly within or crossed by the project area. One of the NRHP-listed resources, the Cannon Branch Fort is also under a Historic Preservation Easement with the VDHR.

Table 4-2 lists all NHLs, NRHP-listed, and NRHP-eligible resources within their respective buffered tiers. A map of all previously recorded architectural resources within 1.5-mile of the project is depicted in Figure 4-2 and maps of the NHL, NRHP-listed, and NRHP-eligible resources within their respective study tiers are included in Figure 4-3.

Table 4-2: Previously recorded architectural resources within their respective tiered buffer zones for the Chase City to Cloud 230kV Line Project

Buffer(miles)	Considered Resources	VDHR #	Description
1.5	National Historic Landmarks	None	None
1.0	National Historic Landmarks	None	None
	National Register- Listed	155-0010	Jennie Dean Memorial Site (Historic), Manassas Industrial School for Colored Youth (NRHP Listing)
	Battlefields	076-5190	Second Battle of Manassas (Historic/Current), Battle of Gainesville (Historic), Brawner's Farm (Historic), Groveton (Historic), Manassas Plains (Historic), Second Battle of Bull Run (Historic/Current)
		076-5335	First Battle of Manassas (Historic), Brawner's Farm (Historic), First Battle of Bull Run (Historic), Gainesville (Historic), Groveton (Historic), Manassas Plains (Historic)
	Historic Landscapes	None	None
0.5	National Historic Landmarks	None	None
	National Register- Listed	155-5020	Cannon Branch Fort (Historic), The Wakeman Site (Historic)
	Battlefields	None	None
	Historic Landscapes	None	None
	National Register- Eligible	None	None
0.0 (ROW)	National Historic Landmarks	None	None
	National Register- Listed	None	None
	Battlefields	076-5036	Manassas Station Operations Battlefield (Historic), Bristoe Station Battlefield (Historic), Bull Run Bridge (Historic), Kettle Run Battlefield (Historic), Union Mills (Historic)
	Historic Landscapes	None	None
	National Register- Eligible	None	None

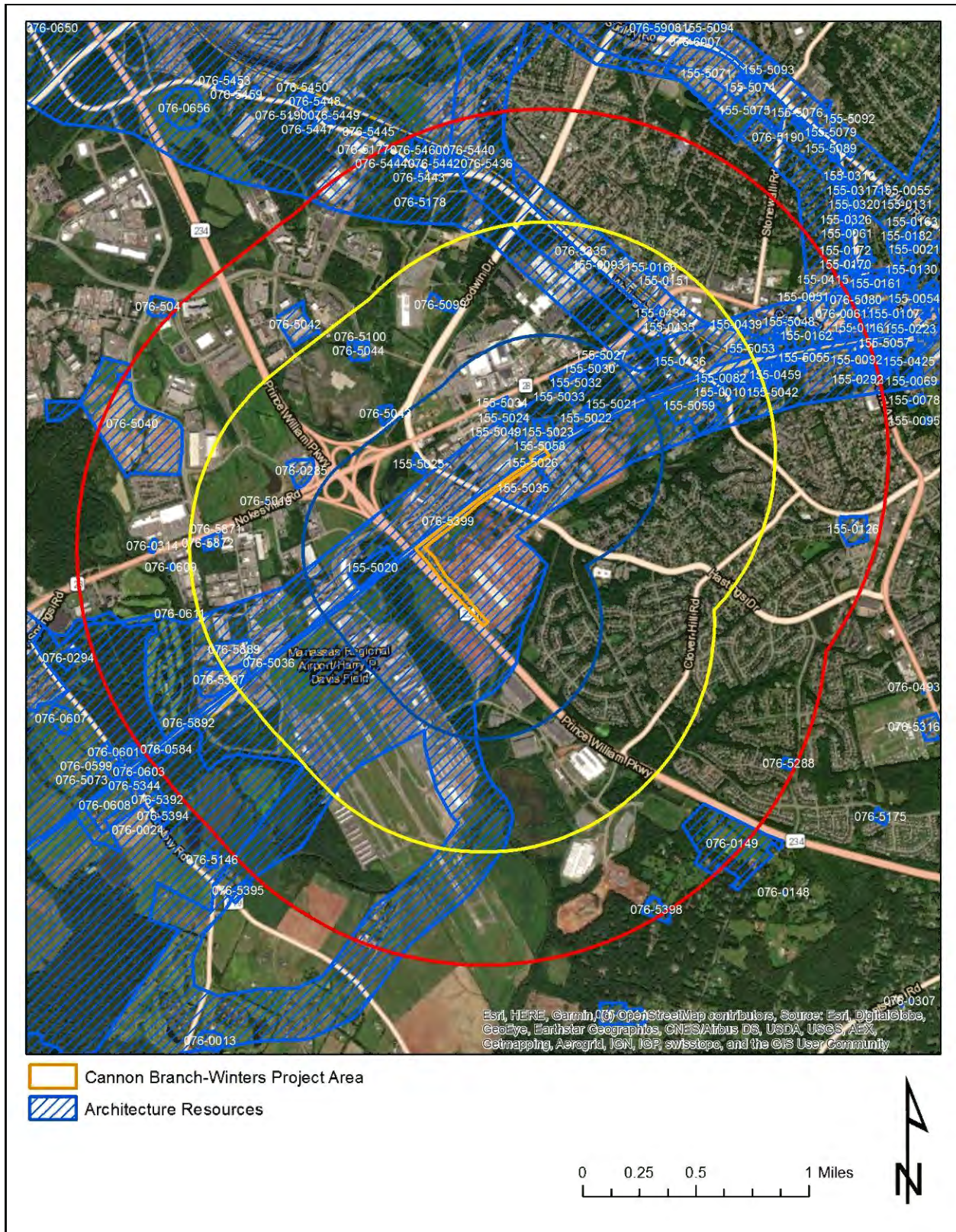


Figure 4-2: All previously identified architectural resources within 1.5-mile of the project area. Source: VCRIS

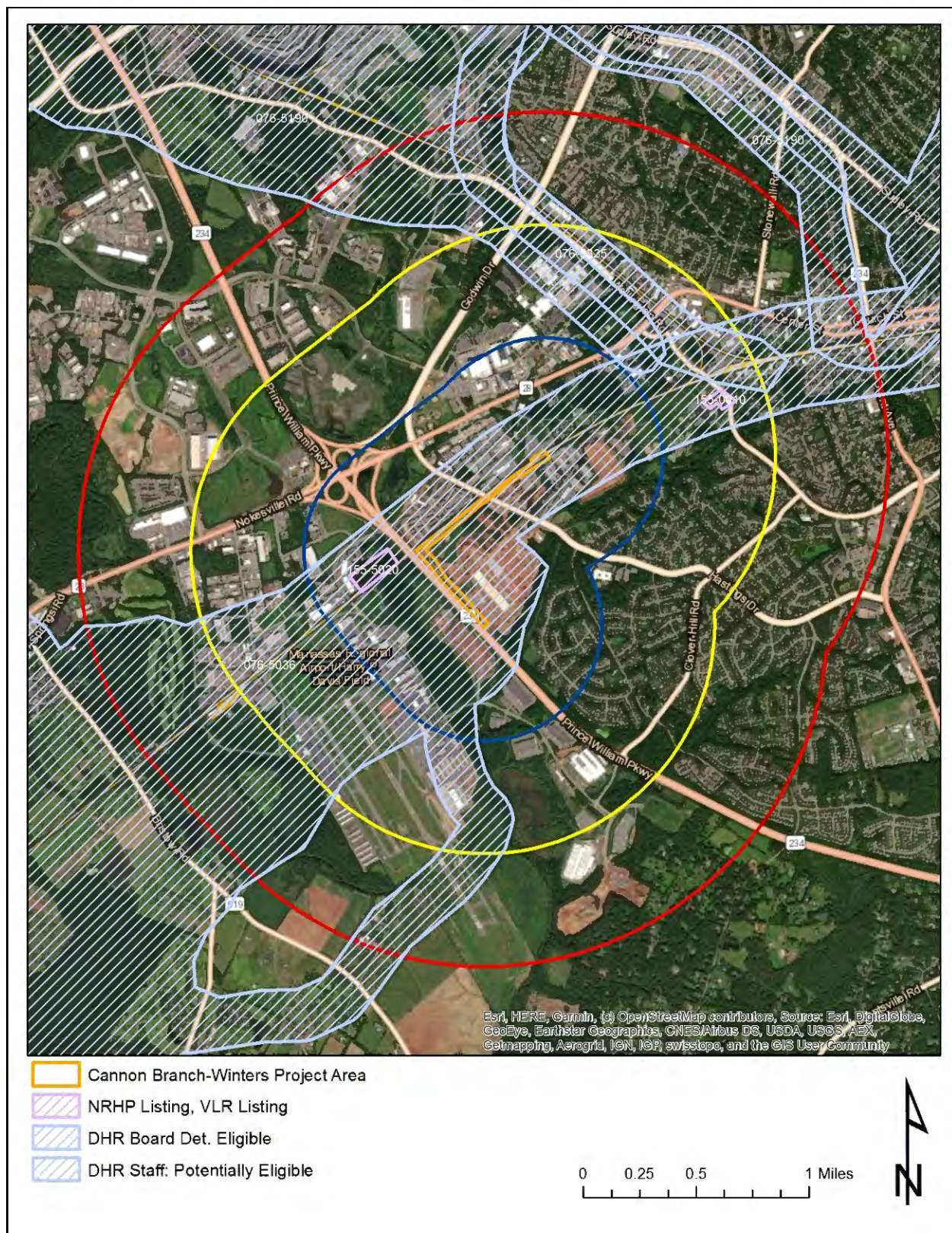


Figure 4-3: NHL, NRHP-Listed, and NRHP-eligible architectural resources within their respective study tiers around the project area. Source: VCRIS

ARCHAEOLOGICAL RESOURCES

Review of the VDHR VCRIS records reveals there are thirty (30) previously recorded archaeological sites within one mile of the project area, none of which are located within or adjacent to the project area (within 100 feet of the project centerline). Previously recorded sites within one mile of the project primarily consist of prehistoric lithic scatters and camps; and historic-period domestic sites, trash scatters, a road trace, well, and Civil War earthworks. Two of the sites within one mile have been formally listed in the NRHP and one additional has previously been determined potentially eligible for listing. These include a Civil War earthworks, an African American Industrial School site, and a multi-component prehistoric/historic period site. Six of the sites have been determined not eligible for listing in the NRHP by the VDHR, and the remaining sites have not been formally evaluated.

Table 4-3 lists the previously recorded archaeological resources within one-mile of the project area. Figure 4-4 illustrates the locations of all the previously recorded sites in relation to the project area.

Table 4-3: Previously recorded archaeological resources within one mile of the project area. Bold listings denote sites determined eligible for the NRHP.

VDHR #	Site Category	Site Type	Temporal Association	NRHP Status
44PW0011	DSS Legacy	Camp	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44PW0012	DSS Legacy	Other	Late Archaic (3000 - 1201 B.C.), Woodland (1200 B.C. - 1606 A.D.), 18th Century (1700 - 1799)	Not Evaluated
44PW0013	DSS Legacy	Camp	Middle Archaic (6500 - 3001 B.C.)	Not Evaluated
44PW0014	DSS Legacy	Camp	Late Archaic (3000 - 1201 B.C.)	Not Evaluated
44PW0015	DSS Legacy	Camp	Late Archaic (3000 - 1201 B.C.), Early Woodland (1200 B.C. - 299 A.D.)	Not Evaluated
44PW0227	Military/Defense	Earthworks	19th Century: 3rd quarter (1850 - 1874)	NRHP Listing, VLR Listing
44PW0486	Subsistence/Agriculture	Well	20th Century (1900 - 1999)	Not Evaluated
44PW0494	<Null>	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44PW0495	DSS Legacy	Road	18th Century: 2nd half (1750 - 1799), 19th Century (1800 - 1899), 20th Century: 1st half (1900 - 1949)	Not Evaluated
44PW0505	Education, Military/Defense	Military camp, School	19th Century: 2nd half (1850 - 1899), 19th Century: 3rd quarter (1850 - 1874), 20th Century: 1st half (1900 - 1949)	NRHP Listing, VLR Listing
44PW0506	Subsistence/Agriculture	Barn	20th Century: 1st half (1900 - 1949)	Not Evaluated
44PW0600	DSS Legacy	Other	Late Archaic (3000 - 1201 B.C.), 18th Century: 2nd half (1750 - 1799)	DHR Staff: Potentially Eligible
44PW0601	Domestic	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44PW0602	Domestic	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated

VDHR #	Site Category	Site Type	Temporal Association	NRHP Status
44PW0603	Domestic	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44PW0604	Domestic	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44PW1204	<Null>	<Null>	19th Century: 2nd half (1850 - 1899)	DHR Staff: Not Eligible
44PW1205	<Null>	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44PW1206	Domestic	Dwelling, single	20th Century: 1st quarter (1900 - 1924)	DHR Staff: Not Eligible
44PW1207	Domestic	Dwelling, single	20th Century: 1st half (1900 - 1949)	DHR Staff: Not Eligible
44PW1208	Industry/Processing /Extraction	Lithic workshop	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44PW1209	<Null>	<Null>	20th Century: 1st quarter (1900 - 1924)	Not Evaluated
44PW1212	Domestic	Trash pit	19th Century: 2nd half (1850 - 1899)	Not Evaluated
44PW1213	<Null>	<Null>	19th Century: 1st half (1800 - 1849)	DHR Staff: Not Eligible
44PW1214	Industry/Processing /Extraction	Lithic workshop	Archaic (8500 - 1201 B.C.)	Not Evaluated
44PW1560	Domestic	Dwelling, single	20th Century: 3rd quarter (1950 - 1974)	DHR Staff: Not Eligible
44PW1561	Domestic	Dwelling, single	20th Century: 1st half (1900 - 1949)	DHR Staff: Not Eligible
44PW1748	Domestic	Farmstead	19th Century (1800 - 1899), 20th Century (1900 - 1999)	Not Evaluated
44PW1925	Domestic	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44PW2035	Indeterminate	Artifact scatter	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991), Post Cold War (1992 - Present)	Not Evaluated

NPS AMERICAN BATTLEFIELD PROTECTION PROGRAM (ABPP)

A review of the NPS ABPP records and maps prepared by the Civil War Sites Advisory Commission (CWSAC) revealed the project area extend through and is within one mile of portion of three delineated battlefields. These include the First Manassas Battlefield (VA005), Manassas Station Operations (VA024), Second Manassas Battlefield (VA026), and Bristoe Station Battlefield (VA040) (Figure 4-5).

As defined by the ABPP in 2009, battlefields may be divided into three tiers that correlate to both the historic association and the current level of integrity and preservation. The battlefield **study area** represents the historic extent of the battle as it unfolded upon the landscape; the battlefield **core area** represents the areas of fighting on the battlefield and typically includes the areas of greatest importance to understanding the events of the battle; and the **potential National Register boundaries** encompass the area that remains reasonably intact and warrant preservation.

The project area is located directly within the study areas of the Manassas Station Operations and Bristoe Station Battlefields, and overlaps portions of the Manassas Station Operations Core Area.

The project area is located within one mile of the First Manassas and Second Manassas Battlefields, although does not directly overlap any portions of either battlefield.

No portions of potential National Register boundaries for any delineated battlefields are located within one mile of the project area.

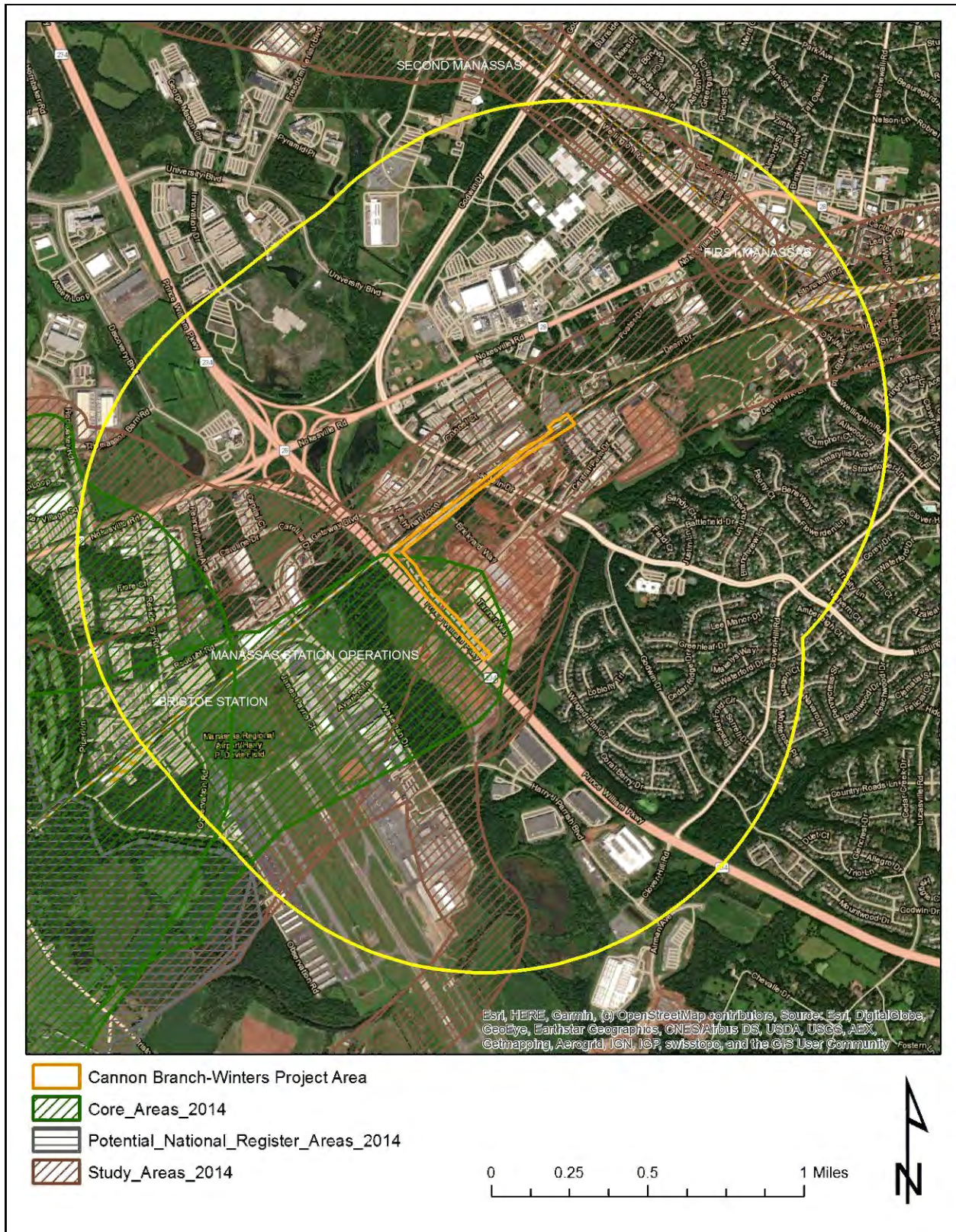


Figure 4-5: Battlefields in relation to the project APE. Source: VCRIS/ American Battlefield Protection Program (ABPP).

RESULTS OF FIELD RECONNAISSANCE

5. RESULTS OF FIELD RECONNAISSANCE

In accordance with the VDHR guidelines for assessing impacts of proposed electric transmission lines on historic resources, previously recorded historic architectural properties designated an NHL, or either listed or determined eligible or potentially eligible for listing in the NRHP located within 1.5 mile, 1.0 mile, or 0.5 mile of the project were field verified for existing conditions and photo documented (Table 5-1). Inspection and analysis of the setting around the resource and views towards the project were also assessed. The results of the field reconnaissance for each resource are organized by NRHP-status, and summarized in the following pages.

Table 5-1: Considered Architectural Resources within their Respective Tiered Buffer Zones for the Line #2011 Extension from Cannon Branch to Winters Branch

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project
076-5036	Manassas Station Operations Battlefield (Historic), Bristoe Station Battlefield (Historic), Bull Run Bridge (Historic), Kettle Run Battlefield (Historic), Union Mills (Historic)	DHR Staff: Potentially Eligible	Directly Crossed
076-5190	Second Battle of Manassas (Historic/Current), Battle of Gainesville (Historic), Brawner's Farm (Historic), Groveton (Historic), Manassas Plains (Historic), Second Battle of Bull Run (Historic/Current),	DHR Staff: Potentially Eligible	~0.55 Mile
076-5335	First Battle of Manassas (Historic), Brawner's Farm (Historic), First Battle of Bull Run (Historic), Gainesville (Historic), Groveton (Historic), Manassas Plains (Historic)	DHR Staff: Potentially Eligible	~0.65 Mile
155-0010	Jennie Dean Memorial Site (Historic), Manassas Industrial School for Colored Youth (NRHP Listing)	NRHP Listing, VLR Listing	~0.75 Mile
155-5020	Cannon Branch Fort (Historic), The Wakeman Site (Historic)	NRHP Listing, VLR Listing	~0.10 Mile

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NATIONAL REGISTER OF HISTORIC PLACES – LISTED PROPERTIES
Located within 1.0 Mile of the Project or Closer

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Jennie Dean Memorial Site/ Manassas Industrial School for Colored Youth, 9601 Prince William Street (VDHR ID# 155-0010)

The Manassas Industrial School for Colored Youth was formed by Jennie Dean in 1893 as a vocational school for black youth. The school was dedicated by Frederick Douglass in 1894. After schools in Virginia were desegregated during the 1960s, the building was demolished, and a new school was constructed. The archeological site of the original school is associated with African American history during the late-nineteenth and early-twentieth centuries. In 1938, the school became publicly owned and continued to serve as a school for black students. The site was listed in the Virginia Landmarks Register and in the NRHP in 1994 under Criterion D.

In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around the property, with emphasis on views towards the project area to document existing setting, sight lines, and viewshed. This assessment found that the Jennie Dean Memorial Site is located approximately 0.75 mile from the project alignment at its nearest point. The property is located within a heavily suburban area just outside of downtown Manassas, and thus the landscape between the property and the project is densely developed. Development between the property and the project includes the current Jennie Dean Elementary School complex with associated facilities that immediately borders the memorial site, as well as an industrial park with warehouses and other development set along Central Park Drive nearer to the project area.

Inspection from the Jennie Dean Memorial Site revealed that it is set within a heavily suburbanized setting with a variety of modern development and infrastructure visible. Visible immediately to the north of the site as well as across the landscape to the east and west is the existing Line #2011 suspended from steel monopole structures that range from 110 to 120 feet tall, many of which are visible across open athletic field bordering the memorial site. The vicinity of the project area is largely screened from view from much of the memorial site by the current Jennie Dean Elementary School and trees/landscaping around and within the memorial and school sites. The project area is visible from the northern edge of the memorial site where several structures on the existing Lines #2195 and #2148 that will share the ROW with the project can be seen. As such, portions of several proposed structures may also be expected to be visible, however, they would range from 80 to 125 feet tall and therefore be no taller than and seen in conjunction with the existing structures. This was confirmed with photo simulation that reveals the project structures will be screened by the current school building from the interpretive kiosk area, but would be above the horizon and potentially visible in conjunction with other existing structures from other vantages. It is therefore determined that the project will not introduce any substantial change of setting or viewshed from the property and will have no more than a ***minimal impact*** on the Jennie Dean Memorial Site.

Figure 5-1 depicts the location of Jennie Dean Memorial Site in relation to the project alignment and viewshed buffers with the location and direction of all representative photographs and photo simulations. Figures 5-2 through 5-7 are representative photographs of the property, as well as those taken from the property and nearby locations towards the project alignment. Figures 5-8 through 5-10 provide photo simulation, including maps with the location, direction, and structures included in each photo simulation from the property, the existing view from each simulation location, and simulated views of the proposed structures.

RESULTS OF FIELD RECONNAISSANCE

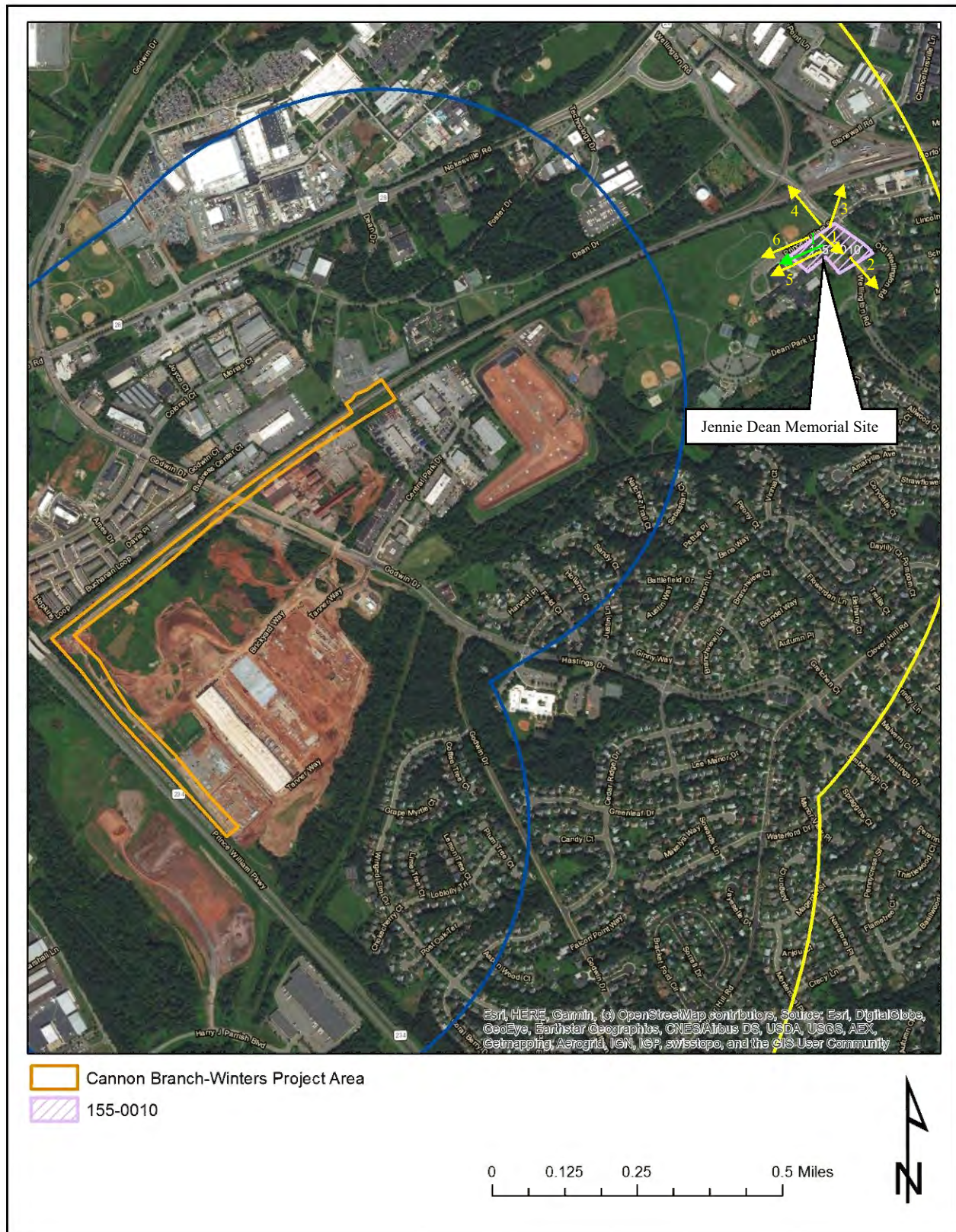


Figure 5-1: Jennie Dean Memorial Site, in relation to the project alignment and tiered study buffers with location and direction of representative photography (shown in yellow) and photo simulations (shown in green).



Figure 5-2: Photo location 1- Representative view of Jennie Dean Memorial Site, facing south.



Figure 5-3: Photo location 2- View of Jennie Dean Memorial setting showing suburban development, facing south.

RESULTS OF FIELD RECONNAISSANCE



Figure 5-4: Photo location 3- View of Jennie Dean Memorial setting showing existing infrastructure, facing northeast.



Figure 5-5: Photo location 4- View of Jennie Dean Memorial setting showing existing infrastructure, facing north.

RESULTS OF FIELD RECONNAISSANCE



Figure 5-6: Photo location 5- View from Jennie Dean Memorial Site towards the project alignment (not visible), facing southwest.

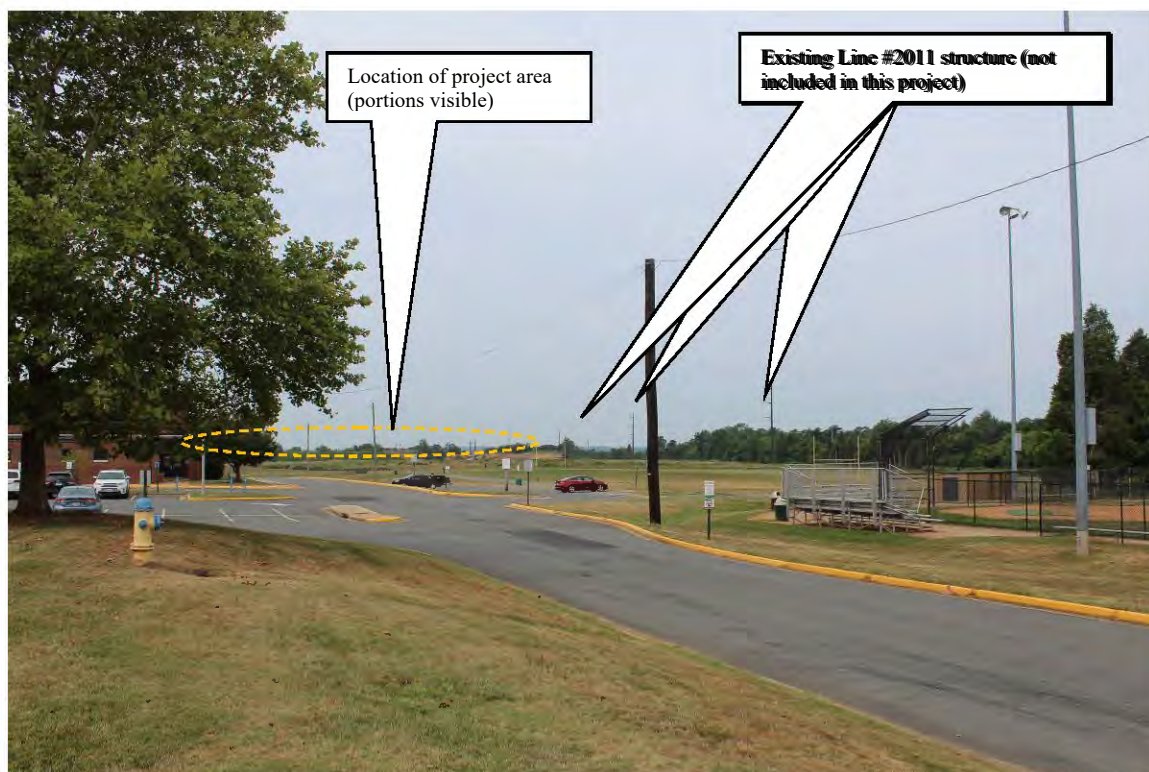


Figure 5-7: Photo location 6- View from Jennie Dean Memorial Site towards the project alignment (partially visible including structures on Line #2195 and 2148 within shared ROW), facing southwest.

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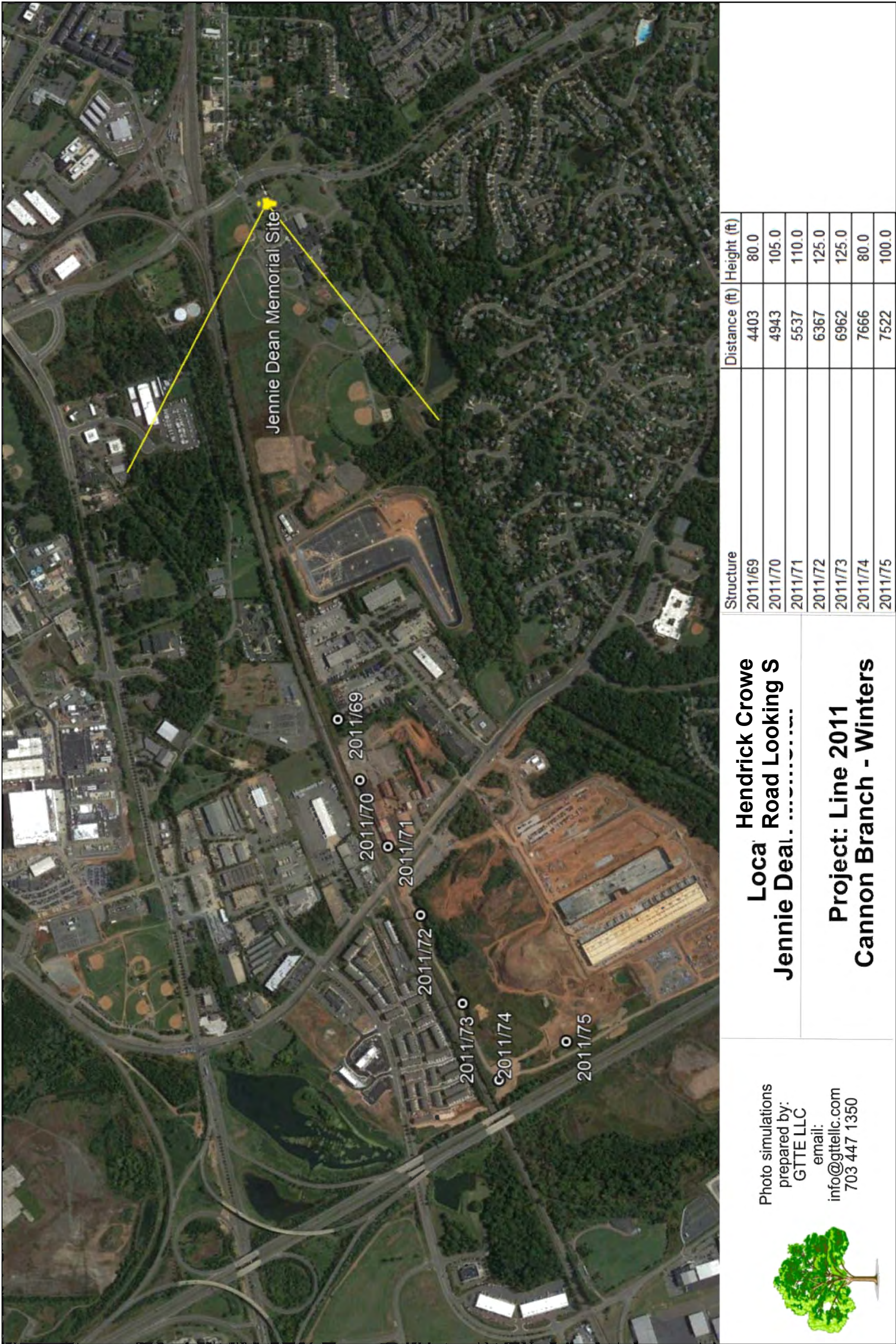


Figure 5-8: Jennie Dean Memorial Site Photo Simulation 1 – Simulation location, direction of view, and structures modeled from interpretative kiosk. Source: GTTE, LLC



Figure 5-9: Jennie Dean Memorial Site Photo Simulation 1 – Existing view from interpretive kiosk. Source: GTTE, LLC



Figure 5-10: Jennie Dean Memorial Site Photo Simulation 1 – Proposed view from interpretive kiosk (Structures not visible- shown in yellow). Source: GTTE, LLC

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Cannon Branch Fort/ The Wakeman Site, Gateway Boulevard (VDHR ID# 155-5020)

The Cannon Branch Fort is a fortification constructed during the Civil War. The fort overlooks Cannon Branch between Manassas and Bristow, Virginia. The site is significant for the potential to provide information on the history of the Civil War in Northern Virginia. The archaeological site is apparently undocumented in the written records of the conflict; the specifics of its exact construction and use are not known. As a result, the site may be of importance as a record of the war and as a source of information regarding the construction technology used on this type of fortification. The site was listed in the NRHP in 1999 and has had a Historic Preservation Easement since 2000.

In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around the property, with emphasis on views towards the project area to document existing setting, sight lines, and viewshed. This assessment found that Cannon Branch Fort is located approximately 0.10 mile from the project alignment at its nearest point. The property is located between an industrial complex and a regional highway on the outskirts of Manassas, and thus the landscape between the property and the project is moderately developed. Development between the property and the project area includes the four-lane divided Prince William Parkway (Route 234), a railroad corridor, and a high-density residential townhouse development.

Inspection from Cannon Branch Fort revealed that the site is located within a mixed-use area surrounded by modern development and infrastructure. From the parking lot, several office buildings associated with the industrial park may be seen immediately to the west while the raised Prince William Parkway corridor can be seen to the northeast. The structures on the existing Lines #2195 and 2148 that are located within the ROW to be shared by the project are not visible from the parking lot, as they are screened by the raised roadway and intervening vegetation. The Cannon Branch Fort itself is set back from the parking lot at the end of a walking trail within a thickly wooded area. The vegetation around the fort completely inhibits views beyond the immediate site and because of the mix of types and species, is anticipated to provide screening year-round and will therefore screen any potential views of the project. This was confirmed by photo simulation from the main parking lot that revealed the structures will remain beneath the intervening treeline. As such, the project will not introduce any change of setting or viewshed from the property and will therefore have **no impact** on Cannon Branch Fort.

Figure 5-11 depicts the location of Cannon Branch Fort in relation to the project alignment and viewshed buffers with the location and direction of all representative photographs and photo simulations. Figures 5-12 through 5-15 are representative photographs of the property, as well as those taken from the property and nearby locations towards the project alignment. Figures 5-16 through 5-18 provide photo simulation, including maps with the location, direction, and structures included in each photo simulation from the property, the existing view from each simulation location, and simulated views of the proposed structures.

RESULTS OF FIELD RECONNAISSANCE

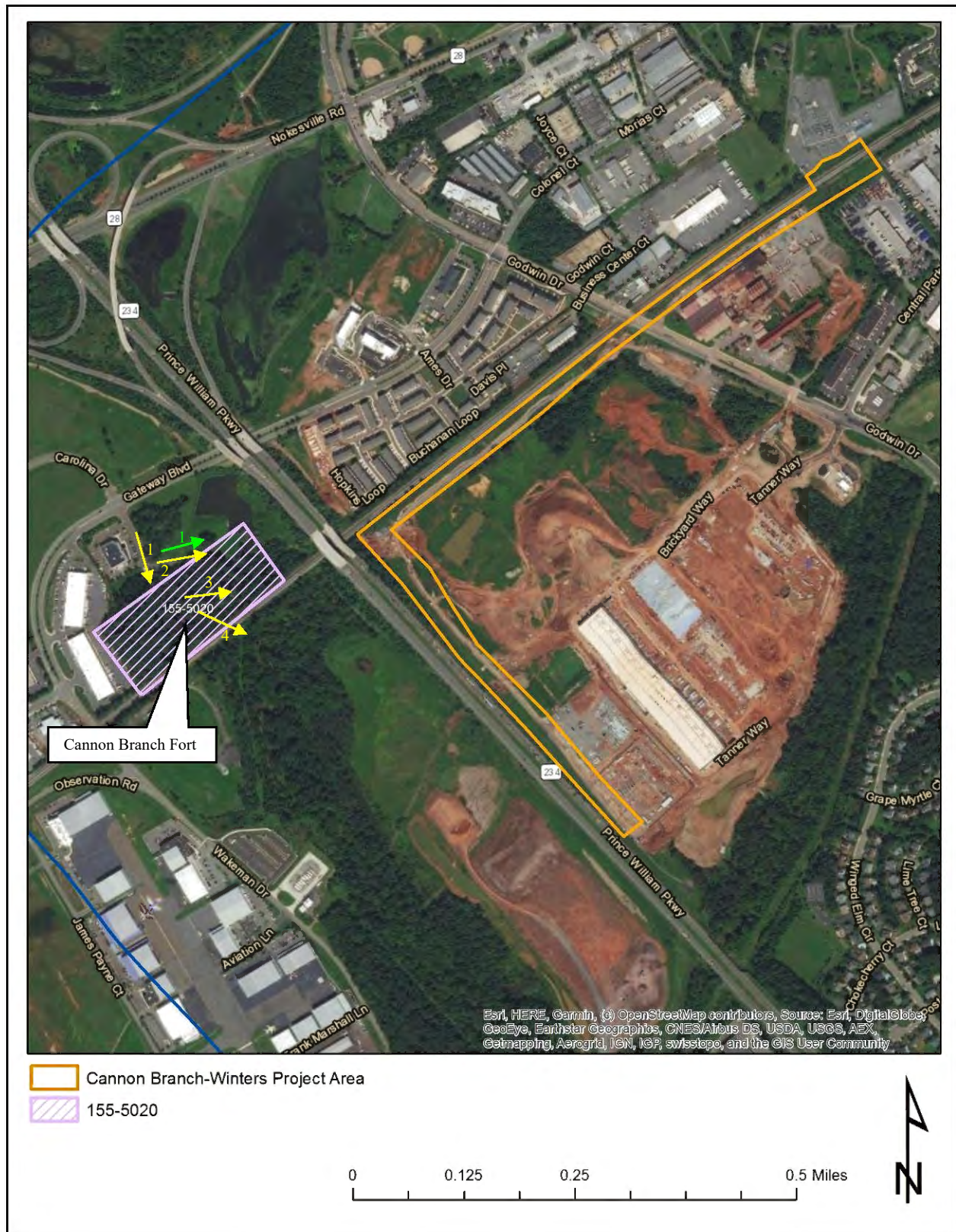


Figure 5-11: Cannon Branch Fort in relation to the project alignment and tiered study buffers with location and direction of representative photography (shown in yellow) and photos simulations (shown in green).



Figure 5-12: Photo location 1- Representative view of Cannon Branch Fort entrance, facing south.

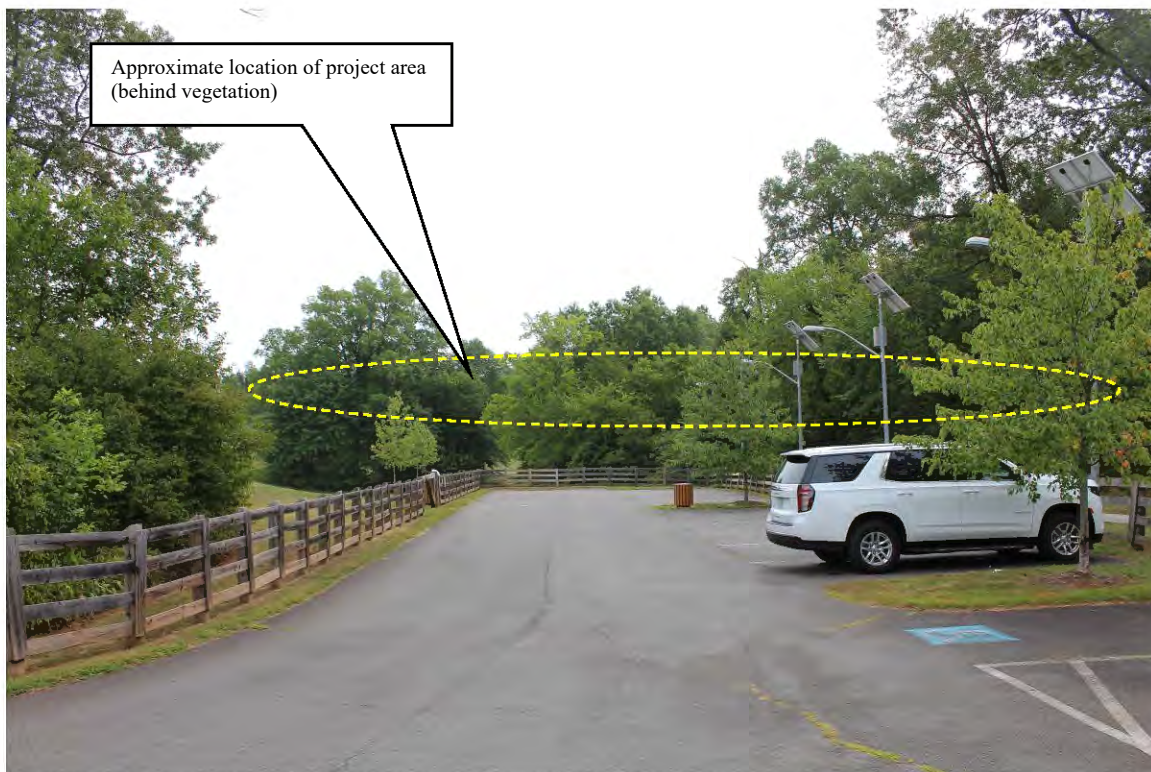


Figure 5-13: Photo location 2- View from Cannon Branch Fort parking lot towards the project alignment (not visible), facing east.



Figure 5-14: Photo location 3- View from Cannon Branch Fort towards the project alignment (not visible), facing

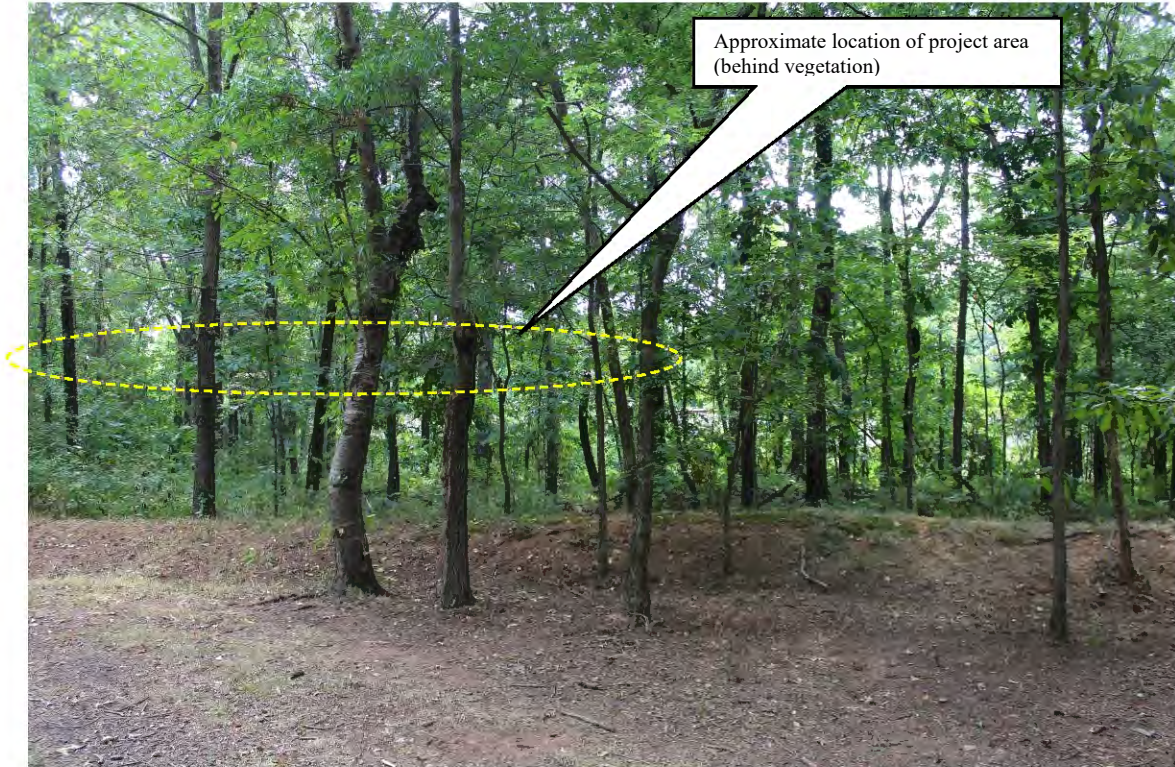


Figure 5-15: Photo location 4- View from Cannon Branch Fort towards the project alignment (not visible), facing southeast.

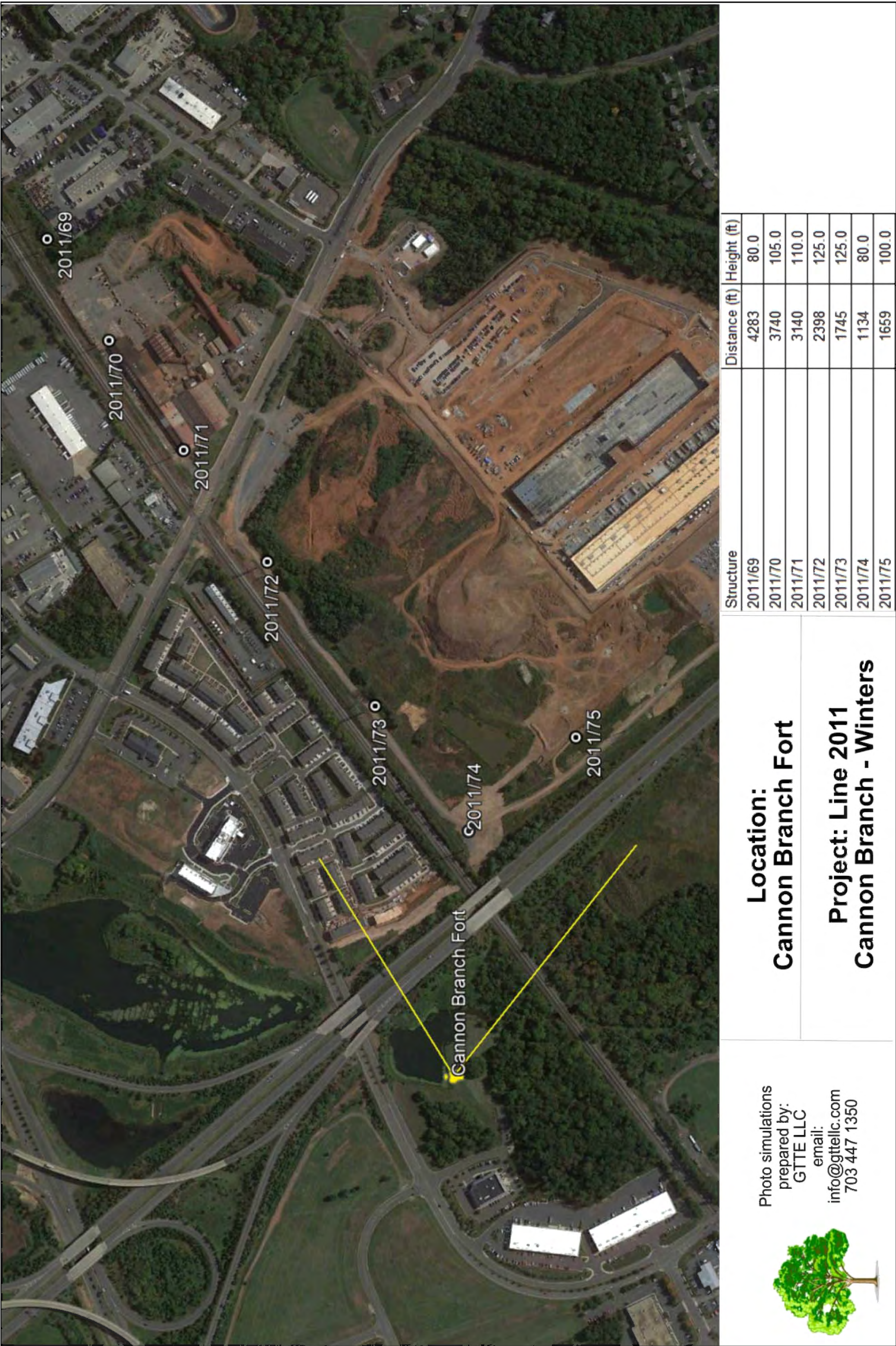




Figure 5-17: Cannon Branch Fort Photo Simulation 1 – Existing view from parking lot. Source: GTTE, LLC



Figure 5-18: Cannon Branch Fort Photo Simulation 1 – Proposed view from parking lot (Structures not visible- shown in yellow). Source: GTTE, LLC

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BATTLEFIELDS

Located within 1.0 Mile of the Project or Closer

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Manassas Station Operations (VDHR ID# 076-5036)

The Manassas Station Operations Battlefield is a Civil War battlefield that dates to 1862. The battlefield consists of the sites of four smaller actions that led up to the Second Battle of Manassas on August 29-30, 1862. Together, these engagements are referred to as the Manassas Station Operations. On August 25th, Confederate General “Stonewall” Jackson moved his force of 20,000 soldiers from Cedar Mountain in hopes of stopping Union General John Pope’s army from heading south. On August 25th, Jackson moved east toward Bristoe Station and attacked a Union garrison there the next day. He then moved toward Manassas Junction on August 27th. The Confederates engaged with the Union Army under General John Pope at Union Mills, which was arriving in piecemeal. A separate portion of the Confederate Army under General Richard Ewell also engaged with a Union force at Kettle Run, before moving to Manassas Junction to meet with Jackson’s force. After pushing back Union forces, the Confederates were able to take a defensive position at Manassas and wait for the remainder of General Lee’s army to arrive. As a result of these events’ association with the Second Battle of Manassas, the battlefield was determined potentially eligible for listing in the NRHP by the VDHR.

In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around the resource property with emphasis on views towards the project area to document existing setting, sight lines, and viewshed. This assessment found that the project alignment is located directly within the battlefield, and it extends generally to the southwest and northeast. Most of the battlefield in the vicinity is considered “study area” only, although there is a small portion of “core area” that overlaps a portion of the project area and extends to the southwest. The landscape of the battlefield within and surrounding the project area is generally characterized by modern development and infrastructure associated with the outskirts of Manassas. It is crossed by the four-lane divided Prince William Parkway immediately bordering the project area and much of the surrounding area is densely developed with a mix of high-density residential and industrial uses, as well as the Manassas Regional Airport. There is a small undeveloped tract just across Prince William Parkway from the project in which the preserved Civil War-era Cannon Branch Fort is located.

Inspection from representative locations throughout the battlefield revealed that in general, the setting and viewsheds are dominated by extensive modern development and infrastructure. These features inhibit long distant views from many vantage points and therefore screen visibility of the project area. From other locations where breaks in development or views down open road corridors allow views towards the project area, it can be seen in conjunction with other development and infrastructure, including the existing Lines #2195 and #2148 that will share the ROW with the project, as well as the existing Line #2011 that extends to the north. All of these lines are suspended from steel monopole structures that range from 110 to 120 feet tall, many of which from locations throughout the battlefield. As such, portions of several proposed structures may also be expected to be visible from those vantage points, however, they would range from 80 to 125 feet tall and therefore be no taller than and seen in conjunction with the existing structures. The only undeveloped portion of the battlefield in the vicinity of the project with intact contemporary features is the Cannon Branch Fort, located roughly 0.11 mile to the southwest. Despite its proximity, the heavily wooded site surrounding the fort screens all views in the direction of the project and is anticipated to provide year-round screening. This was

confirmed with photo simulation that revealed the proposed structures would generally be screened from view within Core Area portions of the battlefield, with the exception of from a break in vegetation near the airport and in close proximity to the project where several proposed structures may be visible amongst and behind existing structures on Lines #2195/2148. It is therefore determined that the project will not introduce any substantial change of setting or viewshed from any location throughout the battlefield. Of further note is that no portions of the battlefield within one mile of the project, including those vantage points where it may be visible, are considered potentially eligible due to compromised integrity. As such, the project will have no more than a **minimal impact** on the Manassas Station Operations Battlefield.

Figure 5-19 depicts the location of the Manassas Station Operations Battlefields in relation to the project alignment and viewshed buffers, with the location and direction of all representative photographs and photo simulations. Figures 5-20 and 5-29 are representative photographs of the property, as well as those taken from locations within and near the property towards the project alignment. Figures 5-30 through 5-38 provide photo simulation, including maps with the location, direction, and structures included in each photo simulation from the property, the existing view from each simulation location, and simulated views of the proposed structures.

RESULTS OF FIELD RECONNAISSANCE

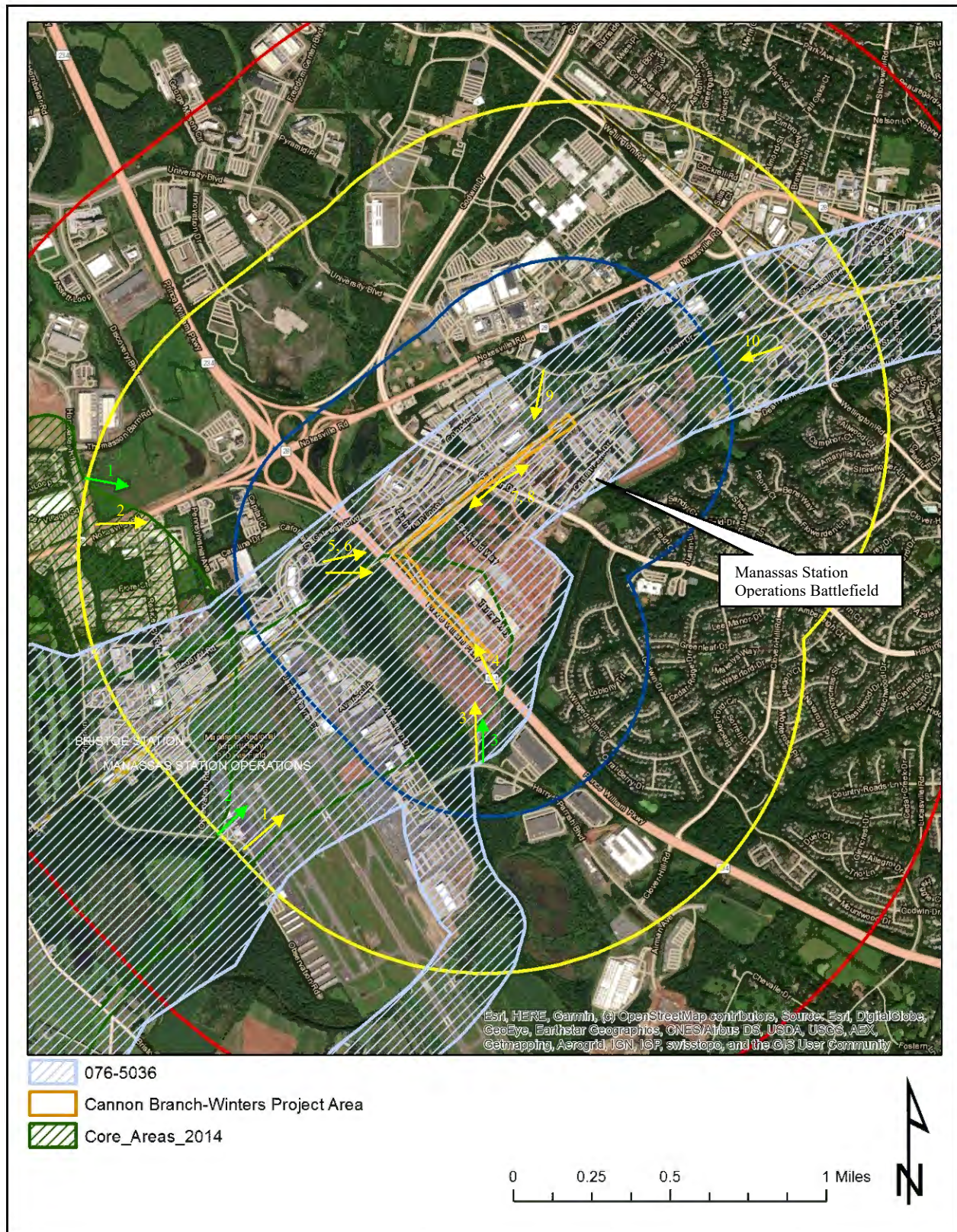


Figure 5-19: Manassas Station Operations in relation to the project area with location and direction of representative photography (shown in yellow) and photo simulations (shown in green).



Figure 5-20: Photo location 1- View from Piper Lane at Manassas Regional Airport (Core Area) towards the project alignment (visible including structures on Line #2195 and 2148 within shared ROW), facing northeast.



Figure 5-21: Photo location 2- View from Redoubt Road at Residency Road (Core Area) towards the project alignment (partially visible including several structures on Line #2195 and 2148 within shared ROW), facing east.



Figure 5-22: Photo location 3- View from Harry J Parrish Boulevard (Core Area) towards the project alignment (partially visible including several structures on Line #2195 and 2148 within shared ROW), facing northeast.



Figure 5-23: Photo location 4- View from Prince William Parkway (Core Area) towards the project alignment (visible including several structures on Line #2195 and 2148 within shared ROW), facing northwest.

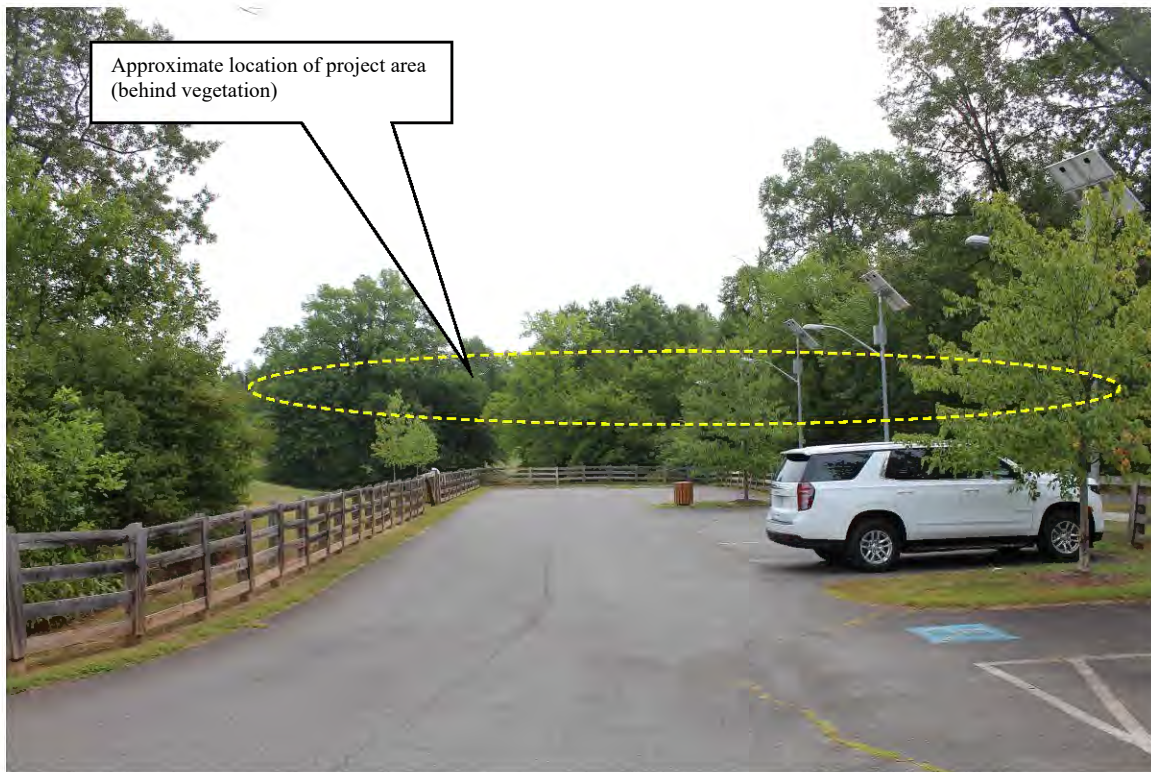


Figure 5-24: Photo location 5- View from Cannon Branch Fort parking lot (Core Area) towards the project alignment (not visible through vegetation), facing east.



Figure 5-25: Photo location 6- View from Cannon Branch Fort (Core Area) towards the project alignment (not visible through vegetation), facing east



Figure 5-26: Photo location 7- View from Godwin Drive (Study Area) towards the project alignment (portions visible including several structures on Line #2195 and 2148 within shared ROW), facing south.



Figure 5-27: Photo location 8- View from Godwin Drive (Study Area) towards the project alignment (visible including several structures on Line #2195 and 2148 within shared ROW), facing north.



Figure 5-28: Photo location 9- View from Foster Drive (Study Area) towards the project alignment (visible including existing Cannon Branch substation and several structures on Line #2195 and 2148 within shared ROW), facing north.

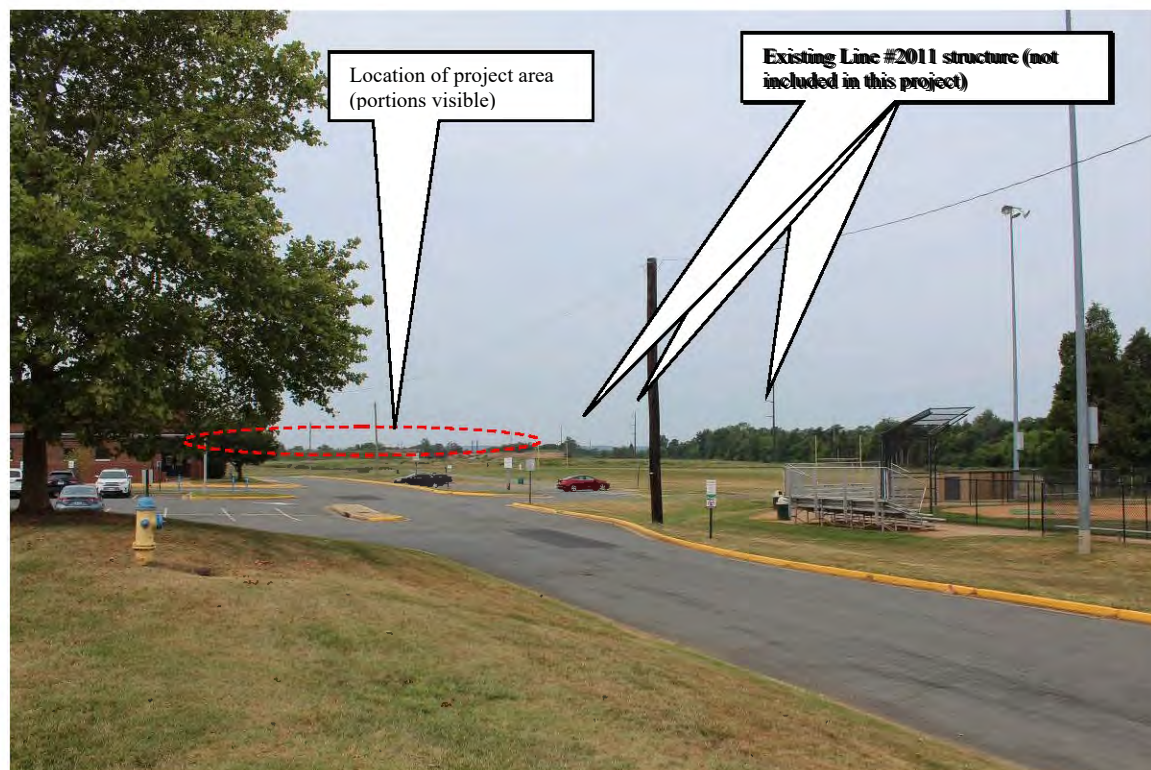


Figure 5-29: Photo location 10- View from Jennie Dean Elementary School towards the project alignment (partially visible including structures on Line #2195 and 2148 within shared ROW), facing southwest.

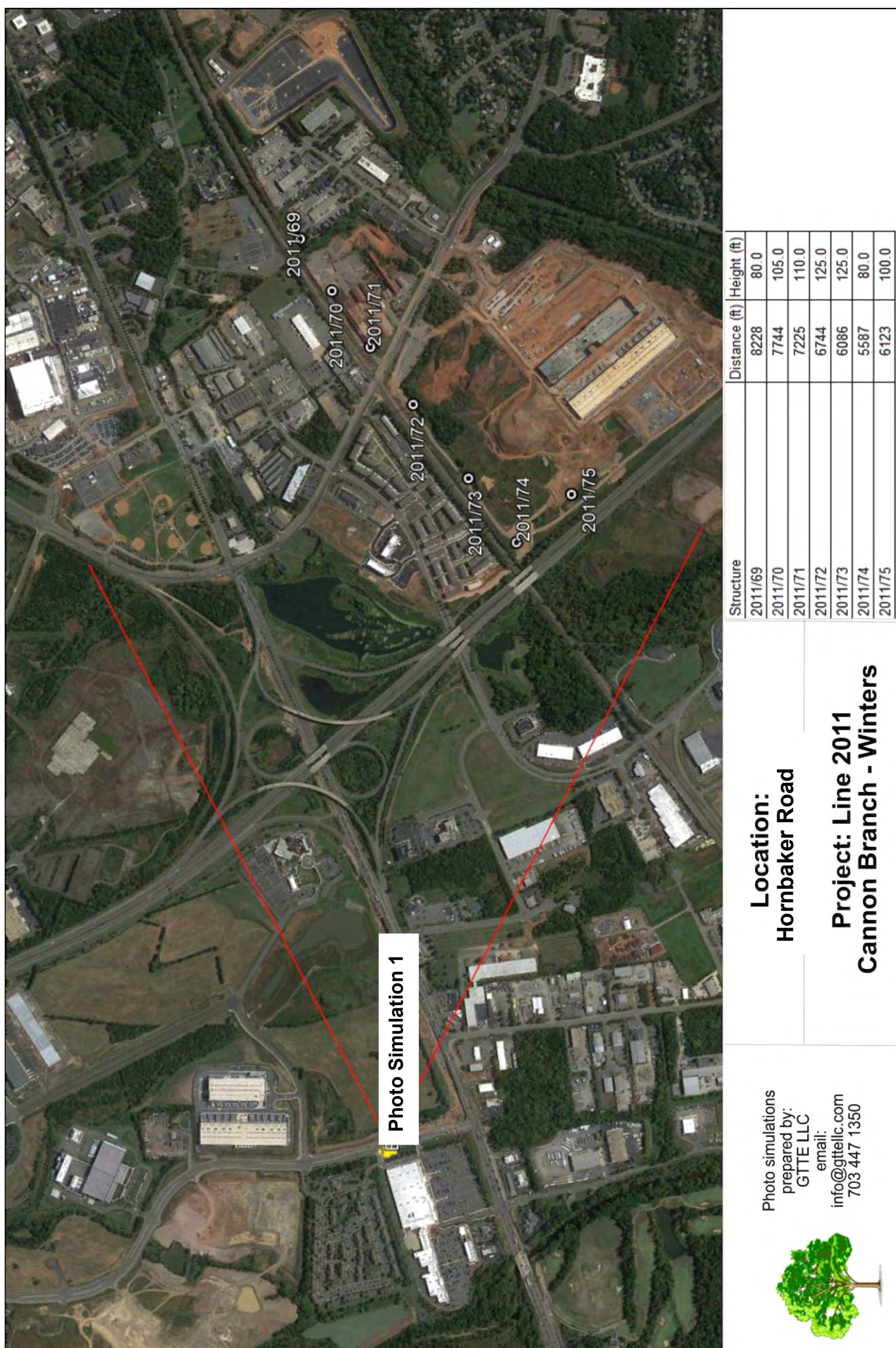




Figure 5-31: Manassas Station Operations Photo Simulation 1 – Existing view from Hornbaker Road. Source: GTTE, LLC



Figure 5-32: Manassas Station Operations Photo Simulation 1 – Proposed view from Hornbaker Road (Structures not visible- shown in yellow). Source: GTTE, LLC

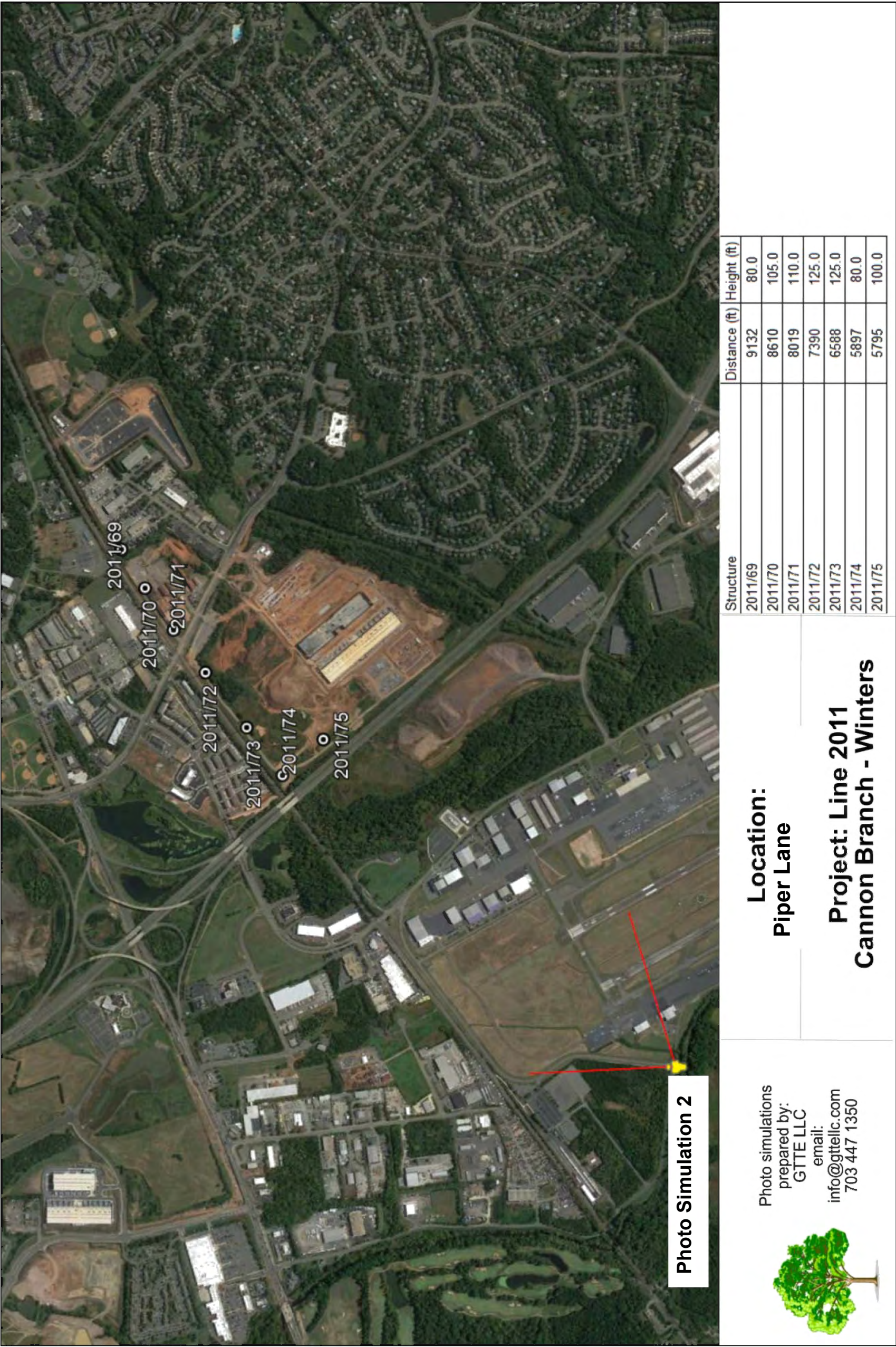




Figure 5-34: Manassas Station Operations Photo Simulation 2 – Existing view from Piper Lane. Source: GTTE, LLC



Figure 5-35: Manassas Station Operations Photo Simulation 2 – Proposed view from Piper Lane (Structures not visible- shown in yellow). Source: GTTE, LLC



Figure 5-36: Manassas Station Operations Photo Simulation 3 – Simulation location, direction of view, and structures modeled from Harry J Parrish Boulevard. Source: GTTE, LLC



Figure 5-37: Manassas Station Operations Photo Simulation 3 – Existing view from Harry J Parrish Boulevard. Source: GTTE, LLC



Figure 5-38: Manassas Station Operations Photo Simulation 3 – Proposed view from Harry J Parrish Boulevard (Visible structures shown as they would appear; Structures not visible- shown in yellow). Source: GTTE, LLC

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Second Battle of Manassas (VDHR ID# 076-5190)

The Second Manassas/Bull Run Battlefield is a Civil War battlefield that dates to 1862. In June of 1862, with hopes of bettering the success of the Union Armies operating outside of Northern Virginia, President Abraham Lincoln formed the Army of Virginia to protect Washington, D.C. By August, the army commander, General John Pope, moved south from D.C. toward Richmond. Confederate General Robert E. Lee, who was engaged with Union General McClellan's army south of Richmond, called for the force under Stonewall Jackson (positioned at Cedar Mountain near Culpeper) to move east toward Manassas Junctions with the hope of stopping Pope's army. Following a series of minor engagements between August 25-27, Jackson managed to set up a defensive line near the First Manassas battlefield. Lee then brought up the remaining half of his army to Manassas. The two armies engaged between August 29-30, which resulted in the defeat of General Pope's army. The Confederate victory at Second Manassas led to the Battle of Antietam on September 17th. The battlefield has been determined potentially eligible for listing in the NRHP by the VDHR.

In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around the resource property with emphasis on views towards the project area to document existing setting, sight lines, and viewshed. This assessment found that the battlefield is situated roughly 0.55 mile from the project alignment at its nearest point. All of the battlefield in the vicinity is considered "study area" only. The nearest portion of battlefield "core area" is roughly 3.8 miles away and the nearest portion considered "potentially National Register eligible" is over 4.05 miles away. The landscape of the battlefield within the vicinity of the project area, as well as between it and the project area is generally characterized by dense modern commercial and industrial development and infrastructure associated with the outskirts of Manassas. This portion of the battlefield consists of an avenue approach that generally follows present-day Wellington Road which is now a four-lane divided highway. Between it and the project is a complex of large warehouse/distribution centers, as well as several smaller office parks and industrial complexes.

Inspection from representative locations throughout the battlefield revealed that in general, the setting and viewsheds are dominated by extensive modern development and infrastructure. These features generally inhibit long distant views from many vantage points and therefore screen visibility of the project area. The longest views are afforded from a raised overpass on Nokesville Road over Wellington Road, where despite the height, the project area and structures on Lines #2195/2148 within the ROW to be shared by the project are still screened by vegetation and development in the distance, but a number of structures on the exiting Line #2011 are visible. Other at-grade vantage points within the battlefield revealed more limited visibility towards the project area. From all vantage points, intervening vegetation and development completely screen visibility of the project area and existing structures on Lines #2195/2148 within the ROW to be shared by the project. As the proposed structures would be of similar height to those on Lines #2195/2148 which are not visible, the project will likewise not be visible from any locations throughout the battlefield. It is therefore determined that the project will not introduce any change of setting or viewshed from any location throughout the battlefield and will have ***no impact*** on the Second Manassas Battlefield.

Figure 5-39 depicts the location of the Second Battle of Manassas in relation to the project alignment and viewshed buffers with the location and direction of all representative photographs. Figures 5-40 through 5-42 are representative photographs of the property, as well as those taken from the property and nearby locations towards the project alignment.

RESULTS OF FIELD RECONNAISSANCE

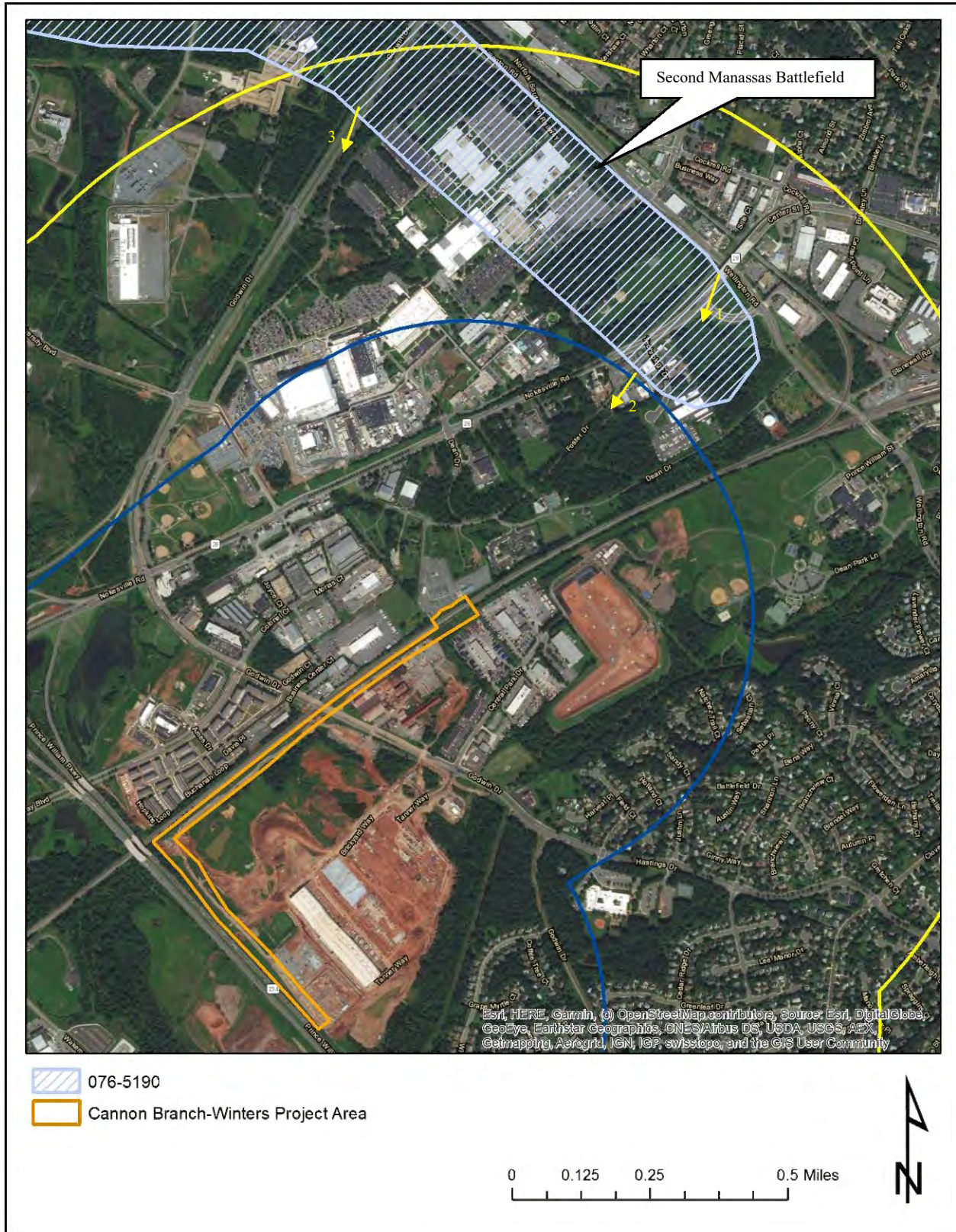


Figure 5-39: Second Manassas Battlefield in relation to the project area and tiered buffers with location and direction of representative photography (shown in yellow).

RESULTS OF FIELD RECONNAISSANCE

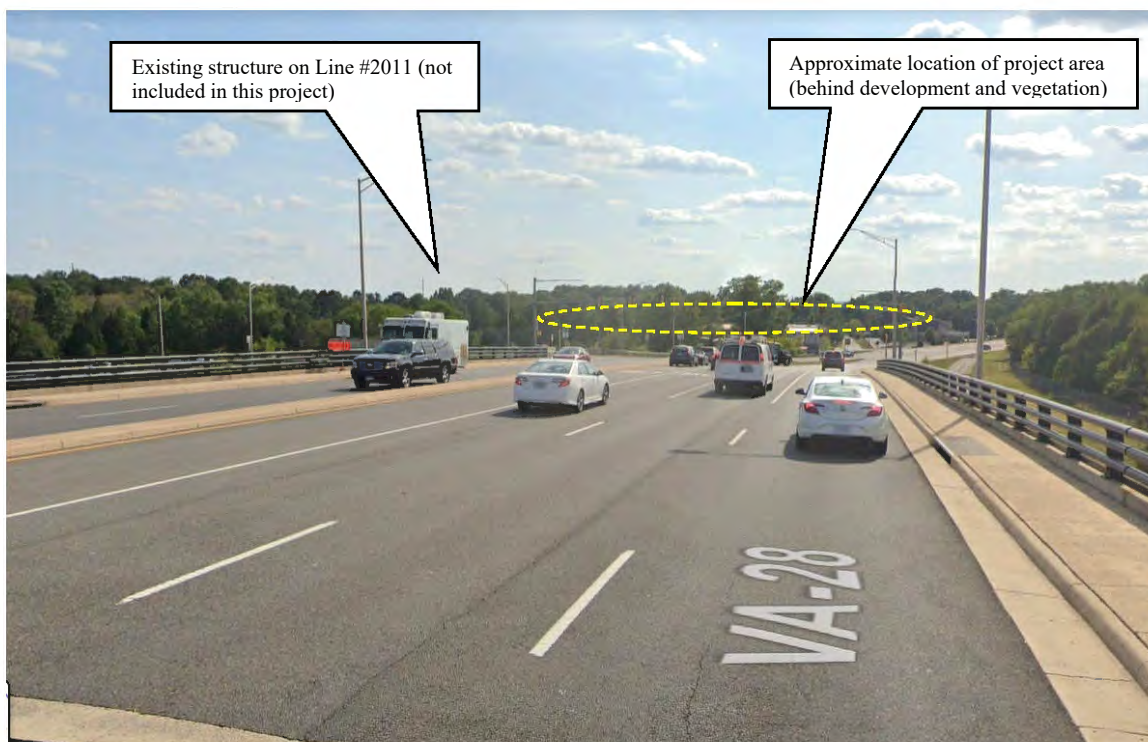


Figure 5-40: Photo location 1- View from Nokesville Road at Wellington Road (Study Area) towards the project alignment (not visible), facing southwest.



Figure 5-41: Photo location 2- View from Foster Drive (Study Area) towards the project alignment (not visible), facing southwest.

RESULTS OF FIELD RECONNAISSANCE



Figure 5-42: Photo location 3- View from Godwin Drive (Study Area) towards the project alignment (not visible), facing southwest.

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First Battle of Manassas (VDHR ID# 076-5335)

The First Manassas/Bull Run Battlefield is a Civil War battlefield that dates to 1861. The battle is regarded as one of the first major actions of the war. Following the attack on Fort Sumter in April of 1861, the U.S. Army spent months preparing for war. By July, President Abraham Lincoln prompted General Irvin McDowell to take an army south from Washington, D.C. and capture the Confederate capital in Richmond. While many U.S. Army officers assumed that McDowell would face no difficulty in doing so, the U.S. force was stopped by Confederates under General P.G.T. Beauregard near Manassas Junction on July 21st. After a day of fighting, the Confederates forced McDowell's soldiers into a retreat. General McDowell was taken out of command following this defeat. The battlefield, in part with the First Manassas Battlefield, was listed in the NRHP in 1966.

In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around the resource property with emphasis on views towards the project area to document existing setting, sight lines, and viewshed. This assessment found that the battlefield is situated roughly 0.65 mile from the project alignment at its nearest point. All of the battlefield in the vicinity is considered "study area" only. The nearest portion of battlefield "core area" is roughly 4.3 miles away and the nearest portion considered "potentially National Register eligible is over 4.00 miles away. The landscape of the battlefield within the vicinity of the project area, as well as between it and the project area is generally characterized by dense modern commercial and industrial development and infrastructure associated with the outskirts of Manassas. This portion of the battlefield consists of an avenue approach that generally follows present-day Wellington Road which is now a four-lane divided highway. Between it and the project is a complex of large warehouse/distribution centers, as well as several smaller office parks and industrial complexes.

Inspection from representative locations throughout the battlefield revealed that in general, the setting and viewsheds are dominated by extensive modern development and infrastructure. These features generally inhibit long distant views from many vantage points and therefore screen visibility of the project area. The longest views are afforded from a raised overpass on Nokesville Road over Wellington Road, where despite the height, the project area and structures on Lines #2195/2148 within the ROW to be shared by the project are still screened by vegetation and development in the distance, but a number of structures on the exiting Line #2011 are visible. Other at-grade vantage points within the battlefield revealed more limited visibility towards the project area. From all vantage points, intervening vegetation and development completely screen visibility of the project area and existing structures on Lines #2195/2148 within the ROW to be shared by the project. As the proposed structures would be of similar height to those on Lines #2195/2148 which are not visible, the project will likewise not be visible from any locations throughout the battlefield. It is therefore determined that the project will not introduce any change of setting or viewshed from any location throughout the battlefield and will have ***no impact*** on the First Manassas Battlefield.

RESULTS OF FIELD RECONNAISSANCE

Figure 5-43 depicts the location of the First Battle of Manassas in relation to the project alignment and viewshed buffers with the location and direction of all representative photographs and photo simulations. Figures 5-44 through 5-47 are representative photographs of the property, as well as those taken from the property and nearby locations towards the project alignment.

RESULTS OF FIELD RECONNAISSANCE

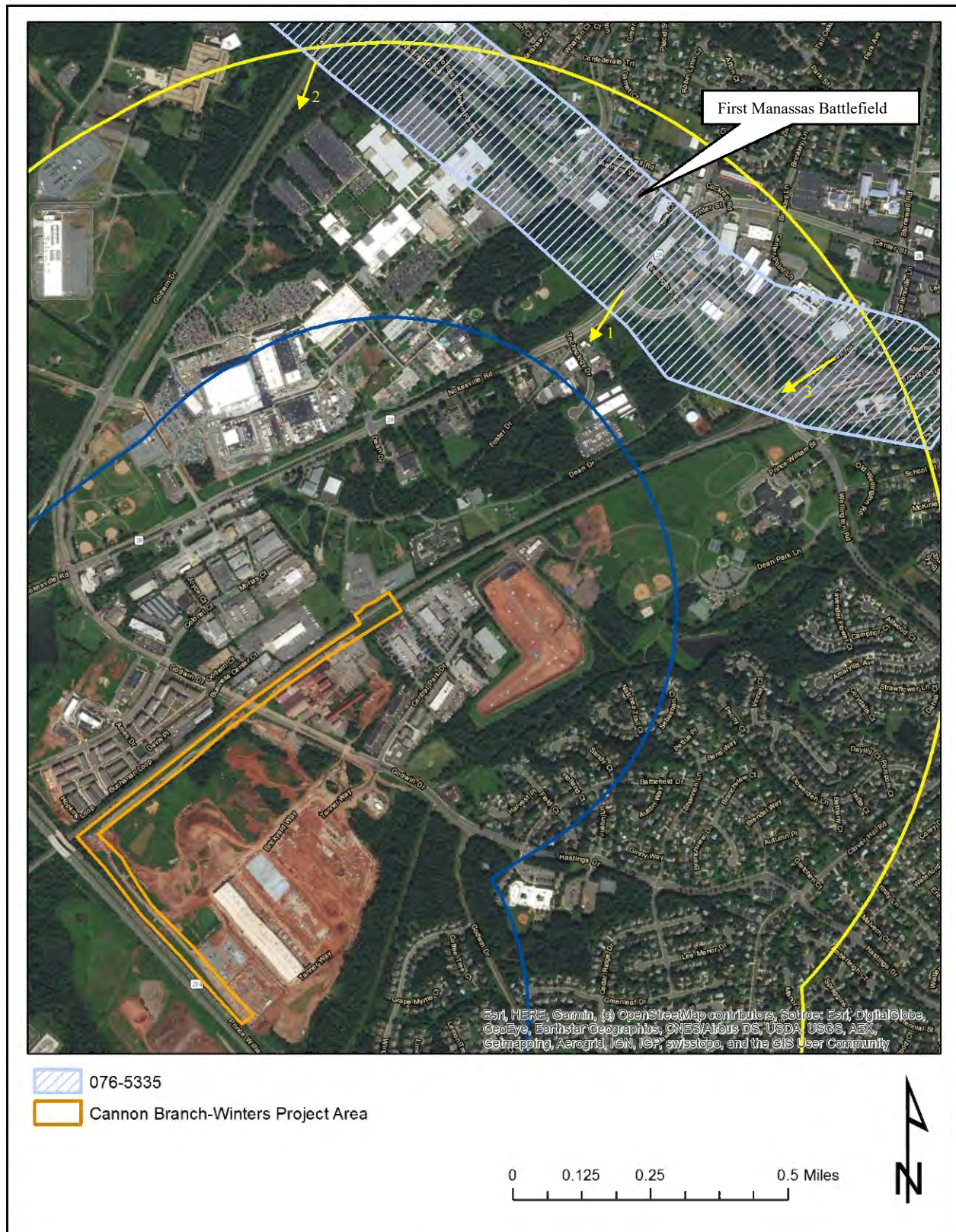


Figure 5-43: First Manassas Battlefield in relation to the project alignment and tiered study buffers with location and direction of representative photography (shown in yellow).

RESULTS OF FIELD RECONNAISSANCE

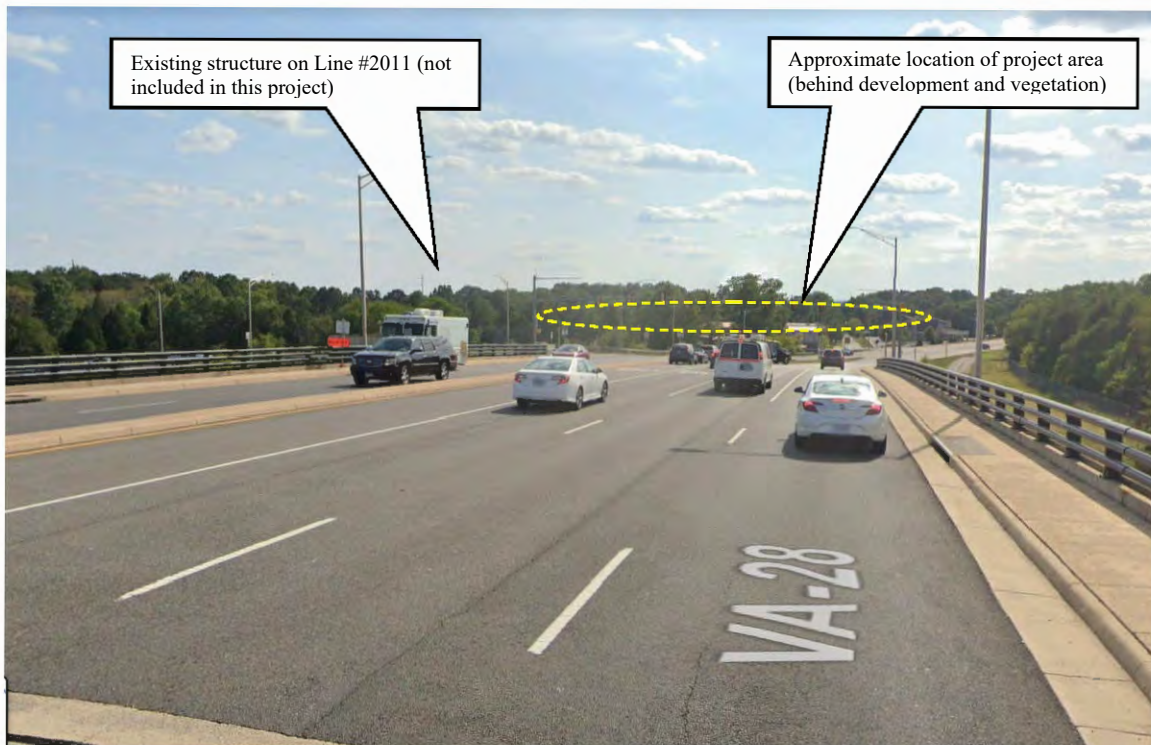


Figure 5-44: Photo location 1- View from Nokesville Road at Wellington Road (Study Area) towards the project alignment (not visible), facing southwest.



Figure 5-45: Photo location 2- View from Godwin Drive (Study Area) towards the project alignment (not visible), facing southwest.

RESULTS OF FIELD RECONNAISSANCE

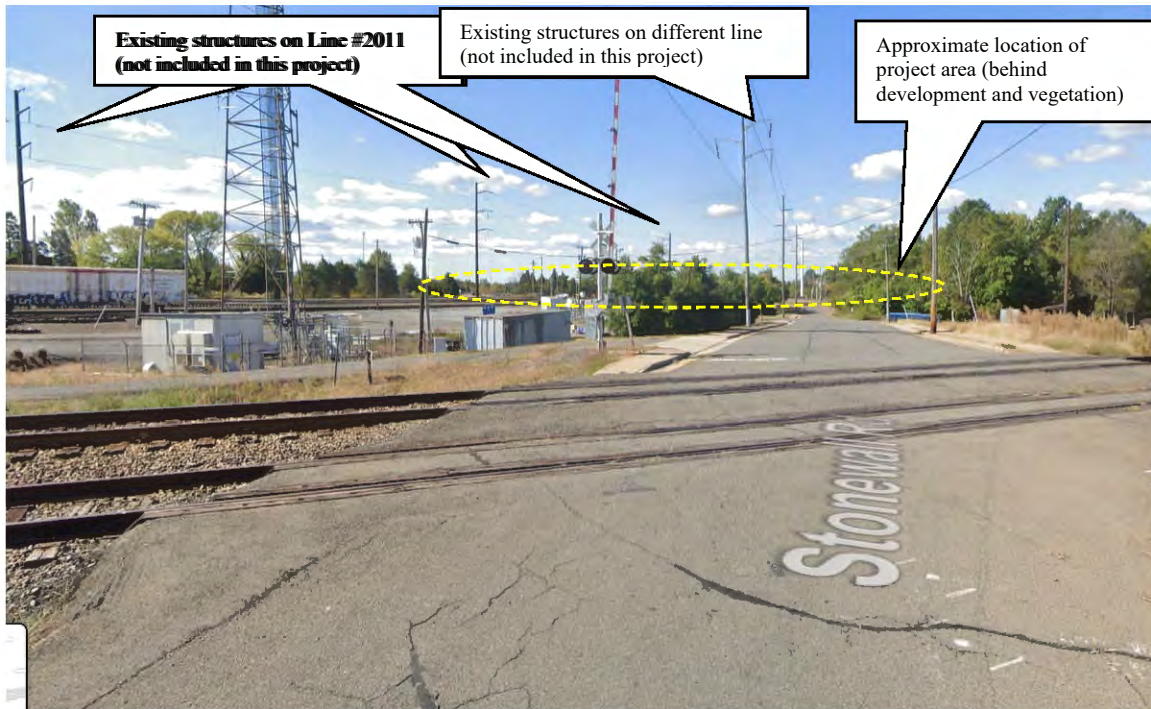


Figure 5-46: Photo location 3- View from Stonewall Road (Study Area) towards the project alignment (not visible), facing southwest.

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6. SUMMARY OF POTENTIAL IMPACTS

As part of this pre-application analysis of cultural resources for Line #2011 Extension from Cannon Branch to Winters Branch Project in Prince William County, Virginia, potential impacts to previously recorded historic properties designated a NHL, NRHP-listed, or considered eligible for listing in the NRHP within the VDHR-defined buffered tiers were assessed in accordance with the VDHR guidelines. For the purposes of this analysis, an impact is one that alters, either directly or indirectly, those qualities or characteristics that qualify a particular property for listing in the NRHP and does so in a manner that diminishes the integrity of a property's materials, workmanship, design, location, setting, feeling, and/or association. With respect to transmission lines, direct impacts typically are associated with ground disturbance resulting from ROW clearing and structure construction. Indirect impacts typically are associated with the introduction of new visual elements or changes to the physical features of a property's setting or viewshed. According to VDHR guidance, project impacts are characterized as such:

- **None** – Project is not visible from the property
- **Minimal** – Occur within viewsheds that have existing transmission lines, locations where there will only be a minor change in tower height, and/or views that have been partially obstructed by intervening topography and vegetation.
- **Moderate** – Include viewsheds with expansive views of the transmission line, more dramatic changes in the line and tower height, and/or an overall increase in the visibility of the route from the historic properties.
- **Severe** – Occur within viewsheds that do not have existing transmission lines and where the views are primarily unobstructed, locations where there will be a dramatic increase in tower visibility due to the close proximity of the route to historic properties, and viewsheds where the visual introduction of the transmission line is a significant change in the setting of the historic properties.

With regards to architectural resources, five (5) historic properties that are either designated and NHL, listed in, or determined eligible or potentially eligible for listing in the NRHP are located within the defined study tiers. This includes no (0) NHLs located within 1.5 mile or closer of the proposed project, two (2) NRHP-listed properties located 1.0 mile or closer of the project (Jennie Dean Memorial Site/ VDHR# 155-0010 and Cannon Branch Fort/ VDHR #155-5020), three (3) battlefields located 1.0 mile or closer of the project (Manassas Station Operations/ VDHR# 076-5036, Second Manassas Battlefield/ VDHR #076-5190, and First Manassas Battlefield/ VDHR #076-5335), and no (0) additional properties that have been determined eligible or potentially eligible for listing in the NRHP that are located within 0.5 mile or closer of the project.

As the project area is located within the vicinity of the downtown/suburban area of Manassas, it and all of the resources are situated within a densely developed landscape. Field inspection, representative photographs, and photo simulation reveal that the project area is screened from many vantage points in the vicinity by intervening development. Where longer vistas are possible and the project area is visible, it is seen in conjunction with a variety of modern development and other infrastructure. The project alignment is an extension of an existing

SUMMARY OF POTENTIAL IMPACTS

transmission line and will border two additional transmission lines within a shared ROW. The proposed structures will be similar in height and design to the other existing structures in the area. As such, it is anticipated to be visible only from those vantage points where the other existing lines are already visible, and screened from those vantage points where the existing lines cannot be seen. ***Therefore, the Line #2011 Extension from Cannon Branch to Winters Branch Project will not introduce any substantially new or different qualities or features into the viewshed from any of the historic properties and will have no more than a minimal impact as defined by VDHR on any architectural resources that are designated an NHL, listed in the NRHP, or determined eligible or potentially eligible for listing.***

Table 6-1: Potential impacts summary for architectural resources.

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project	Recommended Impact
076-5036	Manassas Station Operations Battlefield (Historic), Bristoe Station Battlefield (Historic), Bull Run Bridge (Historic), Kettle Run Battlefield (Historic), Union Mills (Historic)	DHR Staff: Potentially Eligible	Directly Crossed	Minimal Impact
076-5190	Second Battle of Manassas (Historic/Current), Battle of Gainesville (Historic), Brawner's Farm (Historic), Groveton (Historic), Manassas Plains (Historic), Second Battle of Bull Run (Historic/Current),	DHR Staff: Potentially Eligible	~0.55 Mile	No Impact
076-5335	First Battle of Manassas (Historic), Brawner's Farm (Historic), First Battle of Bull Run (Historic), Gainesville (Historic), Groveton (Historic), Manassas Plains (Historic)	DHR Staff: Potentially Eligible	~0.65 Mile	No Impact
155-0010	Jennie Dean Memorial Site (Historic), Manassas Industrial School for Colored Youth (NRHP Listing)	NRHP Listing, VLR Listing	~0.75 Mile	Minimal Impact
155-5020	Cannon Branch Fort (Historic), The Wakeman Site (Historic)	NRHP Listing, VLR Listing	~0.10 Mile	No Impact

With regards to archaeology, there are no (0) previously identified sites located within or adjacent to the project area (within 100 feet of the project centerline). As a result of previously conducted survey, the entire project area has been subject to Phase I cultural resources survey. ***It is D+A's opinion that the project will not impact any archaeological sites and no further consideration of archaeological resources is warranted.***

7. REFERENCES

National Park Service

2009 “Civil War Sites Advisory Commission Report Update and Resurvey,” American Battlefield Protection Program

Virginia Department of Historic Resources

2008 *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia*

Virginia Department of Historic Resources

2021 Virginia Cultural Resource Information System (VCRIS) database and GIS server.

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COMMONWEALTH of VIRGINIA

Ann Jennings
Secretary of Natural
and Historic Resources

Department of Historic Resources
2801 Kensington Avenue, Richmond, Virginia 23221

Julie V. Langan
Director

Tel: (804) 367-2323
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November 30, 2021

Craig Hurd
Dominion Energy Virginia
Electric Transmission
P.O. Box 26666
Richmond, VA 23261

Re: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project
City of Manassas and Prince William County, Virginia
DHR File No. 2021-4980

Dear Mr. Hurd,

We have received your request for comments on the project referenced above. The undertaking, as presented, involves the removal of approximately 0.06 miles of existing 230 kV Line #2011 and the construction of approximately 1.05 miles of 230 kV line, and upgrades the existing Cannon Branch and Winters Branch Substation. Our comments are provided as technical assistance to Dominion. We have not been notified by any state or federal agency of their involvement in this project; however, we reserve the right to provide additional comment pursuant to the National Historic Preservation Act, if applicable.

We understand that the proposed project meets the requirements to be filed with the Virginia State Corporation Commission (SCC). We recommend that Dominion follows the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia*, developed by DHR and the SCC to assist project proponents in developing transmission line projects that minimize impacts to historic resources.

We recommend that the project proponent establish a study area for each route alternative under consideration and gather information on known resources. A qualified cultural resources consultant in the appropriate discipline should perform an assessment of impact for each known historic resource present within the proposed study area.

Once the route alternatives have been finalized, DHR recommends that full archaeological and architectural surveys be performed to determine the effect of the project on all historic resources listed in or eligible for listing in the National Register. This process involves the identification and recordation of all archaeological sites and structures greater than 50 years of age, the evaluation of those resources for listing in the National Register, determining the degree of impact of the project on eligible resources, and developing a plan to avoid, minimize, or mitigate any negative impacts. Comments received from the public or other stakeholder

Western Region Office
962 Kime Lane
Salem, VA 24153
Tel: (540) 387-5443
Fax: (540) 387-5446

Northern Region Office
5357 Main Street
PO Box 519
Stephens City, VA 22655
Tel: (540) 868-7029
Fax: (540) 868-7033

Eastern Region Office
2801 Kensington Avenue
Richmond, VA 23221
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Fax: (804) 367-2391

regarding impacts to specific historic resources should be addressed as part of this survey and assessment process.

Thank you for seeking our comments on this project. If you have any questions at this time, please do not hesitate to contact me at jennifer.bellville-marrion@dhr.virginia.gov.

Sincerely,

A handwritten signature in dark ink, appearing to read "Jenny Bellville-Marrion", written over a light blue rectangular stamp.

Jenny Bellville-Marrion, Project Review Archaeologist
Review and Compliance Division

Craig R Hurd (Services - 6)

From: ImpactReview <impactreview@vof.org>
Sent: Wednesday, November 3, 2021 3:14 PM
To: Craig R Hurd (Services - 6)
Cc: Martha Little
Subject: [EXTERNAL] FW: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project
Attachments: Line 2011 Extension (Cannon to Winters) Agency Letter VOF - Little.pdf

This is an EXTERNAL email that was NOT sent from Dominion Energy. Are you expecting this message? Are you expecting a link or attachment? DO NOT click links or open attachments until you verify them

Mr. Hurd,

The Virginia Outdoors Foundation has reviewed the project referenced above and described in the attached document. As of November 3, 2021, there are not any existing nor proposed VOF open-space easements in the immediate vicinity of the project.

Please contact VOF again for further review if the project area changes or if this project does not begin within 24 months. Thank you for considering conservation easements.

Thanks,
Mike

Mike Hallock-Solomon, AICP
Virginia Outdoors Foundation

From: Craig.R.Hurd@dominionenergy.com <Craig.R.Hurd@dominionenergy.com>
Sent: Wednesday, November 3, 2021 8:14 AM
To: Martha Little <mlittle@vof.org>
Subject: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch Project

Alert: This email originated from outside VOF
Good Morning,

Please find the attached letter and overview map notifying you of the proposed transmission line extension and related projects located in City of Manassas and Prince William County, Virginia.

This document has also been sent via certified mail.

Please contact me with any questions or for additional information.

Thanks
Craig R. Hurd
Siting and Permitting
Electric Transmission

Dominion Energy

10900 Nuckols Road Glen Allen VA 23060 Fourth Floor
O: 804.771.6489 C: 804.201.5020



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Rob Farrell
State Forester



COMMONWEALTH of VIRGINIA

Department of Forestry

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November 19, 2021

Mr. Jason P. Ericson
Director, Environmental Services
Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219

SUBJECT: Dominion Energy Virginia's Line #2011 Extension from Cannon Branch to Winters Branch
Project, City of Manassas and Prince William County, Virginia

Dear Mr. Ericson:

Thank you for the opportunity to provide comments for the Environmental Impact Review of the project to extend the #2011 transmission line in the City of Manassas and Prince William County that was described in your letter from Nov 2, 2021.

The Virginia Department of Forestry has no comments to provide on the proposed project.

Sincerely,

A handwritten signature in blue ink, reading "Karl Didier".

Karl Didier
Forestland Conservation Program Manager

KD/kd

cc:

Enclosure(s) (0)

Craig R Hurd (Services - 6)

From: Scott Denny <scott.denny@doav.virginia.gov>
Sent: Thursday, November 4, 2021 9:55 AM
To: Craig R Hurd (Services - 6)
Subject: [EXTERNAL] Line 2011 Extension from Cannon Branch to Winters Branch

This is an EXTERNAL email that was NOT sent from Dominion Energy. Are you expecting this message? Are you expecting a link or attachment? DO NOT click links or open attachments until you verify them

Mr. Hurd:

Following review of the information package provided in your November 2, 2021 email, the Virginia Department of Aviation has determined that due to the proximity of the proposed project to the Manassas Regional Airport, a 7460 form must be submitted to the Federal Aviation Administration to determine if the project constitutes a hazard to air navigation.

Provided the FAA determines the proposal does not constitute a hazard to air navigation, the Department has no objection to the project as it has been presented.

Sincerely,

S. Scott Denny
Senior Aviation Planner

--

S. Scott Denny
Senior Aviation Planner
Virginia Department of Aviation
804-236-3638
scott.denny@doav.virginia.gov